THE UNIVERSITY OF ALBERTA

FACULTY PERCEPTIONS OF FINANCIAL CONSTRAINT IN UNIVERSITIES

by

JEROME F. ELL

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TO FACULTY MEMBERS AT UNIVERSITIES
IN WESTERN CANADA WHOSE RESPONSIVENESS
MADE THIS STUDY POSSIBLE

ABSTRACT

Situated within the context of the micropolitics of educational organizations, the purpose of this study was to examine the perceptions and preferences of faculty members regarding financial constraint at their respective universities in Western Canada. The outcome of the study was an articulation of the interests of faculty members in the matter of financial constraint.

The sample for this study consisted of 457 full-time faculty members at 11 universities. A specially constructed 100-item survey questionnaire was administered in January-March, 1986, for the collection of data. Statistical data were analyzed through one-way analysis of variance, *t* tests, correlation analysis, and multiple linear regression analysis. Open-ended comments were subjected to content analysis.

The results indicated that faculty members' vital interests focused on basic elements of their professional work activity. Faculty perceived financial constraint as a significant problem, one likely to persist into the immediate future. Overall, they viewed the impact of financial constraint at their universities as negative. In particular, they considered its impact as negative on the quality of their instruction, their morale, their socio-economic status, and the achievement of their career aspirations. Group differences in the perceived impact of financial constraint were identified on the basis of university and province.

With regard to the acceptability in principle of institutional responses to financial constraint, faculty exhibited a preference for measures whose incidence strikes furthest from their professional work activities. Faculty considered as acceptable in principle "lobbying for legitimacy and additional funds," "involvement of faculty members," "conservation measures," "voluntary alternatives to dismissal," and "development and expansion of programs." They considered unacceptable "reduction in academic support" and "reduction in remuneration." Group differences in the acceptability in principle of measures for dealing with financial constraint were identified on the basis of discipline area and province.

The study concluded with recommendations for further research into the topic of faculty and financial constraint, as well as implications for administrative practice at

universities confronting a situation of financial constraint. The principal implication drawn was that universities might consider more extensive involvement of faculty members in the development of institutional responses to financial constraint.

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Chapter I

INTRODUCTION AND STATEMENT OF PURPOSE

A. INTRODUCTION

Financial constraint has become a topic of current interest at universities in Western Canada. By 1986 universities in Western Canada -- Manitoba, Saskatchewan, Alberta, and British Columbia -- were experiencing a shortage of funds and record high enrollments. The recession of the early 1980s had exacerbated the financial situation of Canadian universities generally. A deteriorating economy had provided less revenue to the public coffers, which provide the bulk of university funding in Canada. Less revenue, in turn, had resulted in lower levels of funding for universities. There was, moreover, little prospect of a rapid return to a buoyant economy which might alleviate the financial pressures on Canadian universities. Those financial pressures could bring about considerable changes to the universities affected by fiscal constraint.

Earlier, Leslie (1980, p. ii) had characterized the future of Canadian universities during the 1980s as one concerned with survival because of falling levels of financial support and because of projected falling student numbers. Demographic predictions had forecast the likelihood of a decline in student numbers beginning in the mid-1980s (Statistics Canada, 1983, p. 33). This anticipated decline is a result of the diminishing number of young adults in the 18 to 24 year age cohort, a cohort which comprises the largest single pool of potential university students. The projected decline is national in character and makes allowance for regional and provincial variations in the severity of the decline.

This projected decline in the number of university students is confounded, however, by uncertainty regarding the rate of participation in university study. The recent recession has driven rates of participation upward as students have striven to avoid unemployment and to prepare themselves for an eventual upturn in the economy (Fortin, 1987, p. 10). The rate of participation might decline to lower levels with the gradual passing of the recession. By January, 1986, however, enrollments at universities in Western Canada still remained at record

high levels. The universities' problem was one of financial constraint rather than financial constraint *and* enrollment decline.

The topic of financial constraint at Western Canadian universities might conceptually be associated with organizational decline (Whetten, 1980a; 1980b), with cutback management (Levine, 1978; 1979) or with the management of universities of constant or decreasing size (Cyert, 1978). This easy association, however, would be erroneous and inappropriate. Organizational decline and cutback management were hardly suitable terms to describe the situation of universities in Western Canada in 1986. These terms are usually associated with a combination of financial constraint and enrollment decline at universities, succinctly expressed in the term retrenchment. Whereas these terms might be appropriate to describe many universities in the United States currently and whereas these terms might be appropriate to describe universities in Canada at some future date in the 1980s, they were not suitable to describe the universities of Western Canada in 1986. It is inappropriate to speak of organizational decline in reference to universities experiencing record high enrollments and high public support. For a period, until projected enrollment decline occurs (if indeed it does), universities in Western Canada are confronted with a particular problem distinct from retrenchment although related to it.

Perspectives

The problem of financial constraint at Canadian universities can be approached from three perspectives. This problem can be regarded first as a federal responsibility requiring federal policy changes to assure alternate and adequate funding arrangements for universities. Leslie's (1980) analysis was aimed at identifying some options open to the federal government if it considered the situation of the universities sufficiently serious to warrant intervention. Such federal policy changes might include alternate funding for research, increased student aid or renegotiation of the Established Programs Funding (EPF) agreement with the provinces.

Second, the problem of financial constraint can be viewed as a matter of provincial concern. The British North America Act of 1867 (now known as the Constitution Act),

Section 93, grants jurisdiction over matters of education to the provinces. In this perspective, the provinces could undertake alternate funding arrangements for universities. The Higher Education Group (1987) and Cameron (1987) provided some recent considerations of the range of government interventions possible, whether at the federal or provincial level.

Third, the problem of financial constraint can be seen as a matter of responsibility for the individual university. In this perspective, the university's board of governors -- with consultation of the university's administrators, faculty members and students when deemed appropriate -- would approve university-wide policies and adopt measures for dealing with financial constraint. Although any complete solution might require a combination of approaches, the third perspective has been selected in this study.

Within a university facing financial constraint, it is possible to identify specific constituencies whose interests are affected by financial policies. Members of these constituencies might experience the effects of financial constraint in different ways, and they might also have different preferences with regard to the acceptability of various means of dealing with financial constraint. These include members of boards of governors, administrators, students, non-academic personnel and faculty members. It is this latter group, however, which constituted the focus of this study.

It is important to consider the viewpoint of faculty members in the matter of financial constraint because of their numbers, because of their centrality to their institutions, and because of their traditional participation in university governance. Aside from students, faculty members are evidently the most numerous constituency within a university. Unlike students, however, they are a relatively permanent group and the technical core of the university. It is faculty members who are closest to the university's central academic tasks of teaching, research and public service. Collectively, faculty members are at the heart of the university. Even on these grounds, faculty members' interests demand a hearing in the development of institutional responses to financial constraint.

Beyond sheer number and centrality, moreover, faculty members traditionally enjoy a relatively high degree of participation in university governance. This role is consistent with a

collegial, bureaucratic or political understanding of university governance. Within the context of a collegial understanding of university governance, "the democratic belief that those affected by governing decisions have a right to be heard by those making the decisions" (Corson, 1975, p. 237) constitutes a rationale for faculty participation in the development of institutional responses to financial constraint. Although the collegial model of university governance does not exist in a pure form, it still exercises a substantial degree of influence on the role and expectations of faculty members. In terms of a bureaucratic understanding of university governance, faculty members are regarded as "professional bureaucrats" (Mintzberg, 1979) who exercise their academic responsibilities with considerable latitude and discretion. Institutional responses to financial constraint which infringe on that latitude and discretion are likely to meet with resistance. From the viewpoint of a political understanding of university governance, faculty members have at their disposal various channels to further their interests. Ordinarily, faculty members exercise their prerogatives through departmental committees, through their academic senate, and through their faculty associations. To these channels can be added that of influence, however garnered. In any case, the established role of faculty members in university governance provides a rationale for their involvement in the development of institutional responses to financial constraint.

From a micropolitical perspective, that of contending interest groups within an institution, faculty members are an important group of stakeholders in their universities. Institutional responses to financial constraint that are elaborated without regard to faculty members' interests run the risk of imperiling the university's operations and needlessly engendering a hostile institutional climate with long-lasting detrimental consequences. Because the maintenance of faculty members' morale and commitment would be a valuable contribution to the successful implementation of changes which universities are and will be undertaking, it is worthwhile to investigate the specific nature of faculty members' interests in the matter of financial constraint. Such is the rationale of this study.

B. PURPOSE AND RESEARCH QUESTIONS

The general purpose of this study was to identify the perceptions and preferences of faculty members with regard to financial constraint at their respective universities in Western Canada. This general purpose gave rise to five research questions as follows:

1. How do faculty members perceive the impact of financial constraint at their respective universities?
2. Does the perceived impact of financial constraint vary by discipline area, academic rank, highest academic degree, tenure status, administrative status, university, province, size of university, membership in faculty association/union, age, or sex?
3. What measures for dealing with financial constraint do faculty members consider acceptable in principle?
4. Does the acceptability in principle of measures for dealing with financial constraint vary by discipline area, academic rank, highest academic degree, tenure status, administrative status, university, province, size of university, membership in faculty association/union, age, or sex?
5. What relationship, if any, exists for faculty members between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint?

C. SIGNIFICANCE

This research has importance both theoretically and practically. Theoretically, within the context of the micropolitics of education, this study advances an articulation of the interests of faculty members in the matter of financial constraint at their respective universities. This articulation is achieved through an examination of faculty members' perceptions of the impact of financial constraint and through an investigation of their preferences for measures to deal with financial constraint. As Hoyle (1982, p. 89) pointed out, researchers in the domain of micropolitics seldom direct their attention to interests,

which constitute the content of micropolitics.

Furthermore, the study is of theoretical import because it investigates the perceptions and preferences of faculty members rather than those of administrators. Whetten (1980a, p. 584) underlined the importance of researchers examining the management of decline from the viewpoint of organizational participants, and his observation is valid as well for the management of financial constraint at universities, which on this point is very similar to the management of organizational decline. In both the literature dealing with organizational decline and the literature dealing with institutional responses to conditions of decline at universities, the prevailing trend has been to approach issues with a managerial bias, that is, from the viewpoint of senior managers and administrators.

Moreover, this research is significant in light of the relatively scant literature which approaches financial constraint at universities from the viewpoint of faculty members. This study combines Powell's (1981) notion of the perceived impact of financial constraint on the professional lives of academics with Dallam and Hoyt's (1983) concept of faculty preferences for measures to deal with retrenchment, and attempts to relate perceptions of the impact of financial constraint to the acceptability of measures. In so doing, the study opens new ground in exploring the acceptability of institutional responses under conditions of financial constraint alone rather than under conditions of simultaneous financial constraint and enrollment decline.

An additional feature of this study is that it contributes knowledge of relevance to *Canadian* universities. Much of the available literature on the management of universities under conditions of decline is American in origin. This situation is not surprising, given that American experience with financial constraint and enrollment decline has preceded such experience at Canadian universities. This research applies insights derived from this American literature to illuminate the topic of faculty and financial constraint in British Columbia, Alberta, Saskatchewan and Manitoba.

The study also has practical significance for university administrators, boards of governors, and faculty members themselves. Faculty members are possibly the most crucial

and certainly the most expensive of human resources utilized by a university. Large expenditures on faculty members' salaries and benefits in annual operating budgets make faculty members a prime target for budgetary cutbacks, whether in the form of reduced salaries, dismissals for reasons of redundancy, or altered working conditions. If unacceptable institutional responses to financial constraint are needlessly forced upon faculty members, a bitter adversarial climate may emerge with dire consequences for the success of the university's mission. Therefore, it is essential that university administrators and boards of governors become aware of and consider the preferences of faculty members with regard to measures for dealing with financial constraint. Although university administrators, including deans and chairmen, probably have intuitive impressions of what faculty preferences are, these are not widely known nor documented. For faculty members themselves, the outcomes of this study afford the opportunity to discuss perceptions of the impact of financial constraint, to assess the merits of various institutional responses to financial constraint, and to devise appropriate strategies for the attainment of their objectives.

D. ANALYTICAL FRAMEWORK

An examination of this study's analytical framework clarifies the key constructs and the relationships explored in this study. The analytical framework was comprised of three main constructs: (1) faculty members; (2) faculty members' perceptions of the impact of financial constraint; and (3) the acceptability to faculty members of various measures for dealing with financial constraint at universities. The unit of analysis in this study was the individual faculty member, who was identifiable by selected demographic characteristics. These characteristics included the following: discipline area, academic rank, highest academic degree, tenure status, administrative status, university, province, size of university, membership in faculty association/union, age, and sex.

These three constructs made possible the addressing of the five research questions which concerned: (1) faculty members' perceptions of the impact of financial constraint; (2) the variability of their perceptions of that impact on the basis of demographic characteristics;

(3) the acceptability in principle to faculty members of various measures for dealing with financial constraint; (4) the variability of that acceptability on the basis of demographic characteristics; and (5) the relationship between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint. Figure 1.1 displays the constructs utilized and the relationships investigated in this study.

E. DELIMITATIONS AND LIMITATIONS

The study was delimited to full-time faculty members at 11 universities in Western Canada. Only faculty members whose employment status was identifiable in *The Commonwealth Universities Yearbook* (1985) as continuing (rather than sessional) and full-time (rather than part-time) were included in the population from which the sample was drawn. Clinical professors and professors emeriti were not included. The inquiry did not address the perceptions and preferences of administrators regarding financial constraint directly as those of a distinct interest group. However, the perceptions and preferences of administrators were included since some faculty members are university administrators.

The study was limited in several respects. First of all, the study was limited insofar as the data collected are perceptual. No attempt was made to corroborate the respondents' perceptions of the impact of financial constraint through other means such as documentary investigation. Consequently, the responses to the questionnaire may be subject to the respondents' moods, formed in response to the experience or anticipated experience of cutbacks. Second, the study was limited insofar as the matter of financial constraint is itself a politically sensitive issue. The perceptions and preferences expressed by the respondents may reflect to some degree the respondents' own political goals. Third, the study was limited insofar as financial constraint is itself a variable, and the phenomena associated with financial constraint tend to vary from university to university and from province to province.

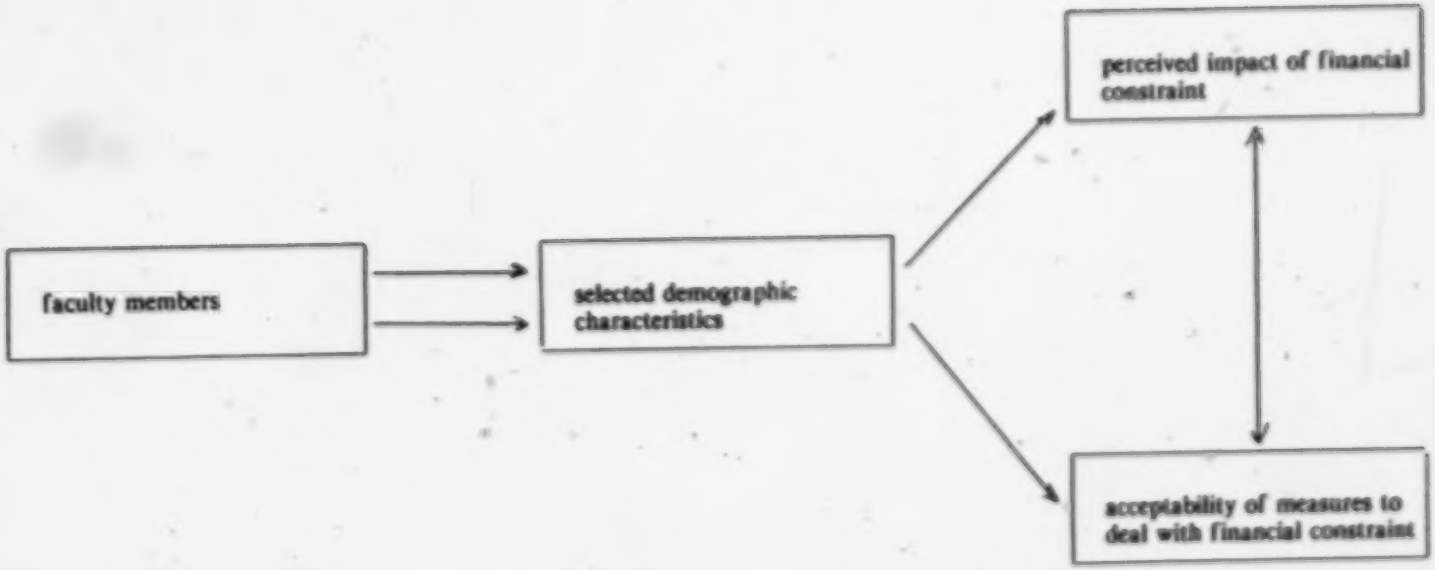
perceived impact of financial constraint
faculty members
selected demographic characteristics
acceptability of measures to deal with financial constraint

Figure 1.1

Analytical Framework for the Study

F. OUTLINE OF THE THESIS

Chapter I offers a general introduction to the study of faculty and financial constraint, specifies the research questions underlying the study, and gives an account of the study's significance as well as its delimitations, limitations and analytical framework. Chapter II presents a review of literature related to the topic of faculty and financial constraint at universities from which the conceptual framework of the study was derived. Chapter III outlines features of the study's design and methodology as well as reporting the rate of return under various demographic categories and a profile of the respondents. Chapters IV and V deal respectively with the analysis of quantitative and qualitative data collected in this study. Chapter IV reports statistical findings related to the five research questions, and Chapter V presents a content analysis of faculty's open-ended comments pertaining to financial constraint at their universities. In Chapter VI a summary of the study is presented, conclusions are drawn and recommendations are put forward for research and practice. A bibliography and appendices follow the final chapter.

Chapter II

REVIEW OF RELATED LITERATURE

This chapter presents a review of literature related to the topic of faculty and financial constraint at universities. The purpose of this chapter is to situate the examination of faculty perceptions and preferences pertaining to financial constraint within the context of the micropolitics of educational organizations. The review of the literature in this chapter is not exhaustive but selective, and highlights themes that provide a background for this study.

The review covers the following areas: (1) micropolitics and faculty interests; (2) general considerations regarding the social functions of universities; (3) organizational decline and cutback management; (4) higher education and the conditions of decline; (5) the Canadian scene; (6) responses to financial constraint at universities; (7) the convergence of organizational theory and institutional responses to financial constraint at universities; and (8) faculty perceptions and preferences. The chapter ends with a summary that outlines the conceptual bases of the study.

A. MICROPOLITICS AND FACULTY INTERESTS

The purpose of this first section of the literature review is to situate faculty interests within the context of the micropolitics of educational organizations. Accordingly, attention is directed first to the notion of the micropolitics of educational organizations, and then to the topic of interests as constituting a line of inquiry within that domain.

Micropolitics

Among the many metaphors which Morgan (1986) lucidly set forth as a flexible basis for the understanding of organizations was the metaphor of organizations as political systems. Under the illumination of this metaphor, organizations may be fruitfully comprehended as arenas in which organizational participants contend for the satisfaction of their dissimilar interests. As Morgan (1986, p. 142) conceded, however, the notion of organizations as

political arenas often meets with disapproval and rejection. Politics is a "dirty word." To view organizations as political systems runs counter to the more frequently accepted assumption that organizations operate cooperatively and on the basis of shared goals. Nevertheless, despite its unattractiveness, the political metaphor does offer some hope of insight into the genuinely contentious and competitive activities that undeniably do occur within organizations. Indeed, the examination of divergent interests may be considered as a necessary condition of their eventual resolution. The identification of divergent interests, when handled in a constructive manner, need not be dysfunctional for organizations or their participants.

A seminal example of micropolitical studies as applied to educational organizations was Baldridge's (1971) case study of New York University, in which he introduced the political model of university governance to supplement the then dominant bureaucratic and collegial approaches to university governance. Baldridge's main thesis was that the university's decision-making activities are to be regarded as a political process rather than as a bureacratic process directed from the top of the organizational hierarchy, or as a consensual process guided by a community of scholars at the base of the institution.

Baldridge's (1971, p. 3) political model of university governance entailed a number of assumptions regarding policy formation, conflict and change. The first assumption was that within a university the critical decisions concern long-range goals rather than routine operations. A second supposition was that conflict between and among contending interest groups constitutes a normal component of the policy formation process. The third postulate was that the process of policy formation has as its outcome organizational change.

In the application of these assumptions, Baldridge (1971, pp. 21-26) recognized five elements within the university's policy formation process. The first element is the university's "social structure," or the given diversity of political players arising in great part from the complexity of the university's structure. The second part is a process of "interest articulation," the activities through which the political players seek to advance their policy preferences. The "legislative stage" constitutes the third component of the policy formation

process. In this stage bargaining and negotiation occur among the political players. The outcome of this bargaining and negotiation comprises the fourth element of the process, namely, the "formulation of policy." The fifth part of the process is the "execution of policy" or its actual implementation in routine procedures. A consequence of the execution of policy is a changed state of the university's social structure, which in turn can lead to a recapitulation of the entire process.

On the basis of these assumptions and their application in the policy formation process, Baldridge succeeded in providing a consistent and coherent account of changes in the university's educational philosophy, a student revolt, and a reorganization of the university's departmental structure. The gist of Baldridge's (1971, p. 79) insight is that "university governance on the grand scale [is] ... a political process in which different power blocks [sic] -- outside pressure groups, trustees, administrators, faculty, and students -- struggle for some control over the university's destiny...."

More recently, Hoyle (1982, p. 87) advocated the undertaking of micropolitical studies with reference to educational organizations. The justification of such studies, he reasoned, lies in correcting an exaggeratedly rational approach to administration in which it is assumed that "if plans are well-conceived, clearly set out, and adequately communicated," the organization can operate more effectively and efficiently. Like Baldridge, a decade earlier, Hoyle was dissatisfied with the prevailing currents or organizational theory in which the conflictual aspects of organizational activity are given insufficient prominence.

Hoyle (1982, p. 88) defined micropolitics as "embracing those strategies by which individuals and groups in organizational contexts seek to use their resources of power and influence to further their interests." This definition accords substantially with Pfeffer's (1981, p. 7) understanding of organizational politics, which is applicable to organizations generally: "Organizational politics involves those activities taken within organizations to acquire, develop, and use power and other resources to obtain one's preferred outcomes in a situation in which there is uncertainty or dissensus about choices."

Hoyle (1982, pp. 88-89) went on to specify four major facets of micropolitical study: "interests, interest sets, power and strategies." A micropolitical perspective thus assumes that a diversity of conflicting interests exists within an organization. These varied interests or preferred outcomes are sought by individuals and frequently by collectivities of individuals or interest sets. Such interest sets can take the form of cliques, cabals, groups with varying degress of affiliation and solidarity, or even coalitions of groups. Interest sets are assumed as well to utilize power in attempting to achieve their preferred outcomes. Two forms of power may be distinguished: authority and influence. Authority here refers to the legitimate exercise of power and is ultimately related to formal organizational structure, whereas infuence stems from informal sources such as "personality (charisma), expertise, access (especially to information) and resources (material or symbolic)." Finally, micropolitics is concerned with the examination of strategies exercised by interest sets. These are the activities which scandalize and give offense to politically innocent organizational members. These activities are exemplified in behavior such as "'rigging' agendas, 'massaging' the minutes of meetings, 'nobbling' individuals before meetings ... [and] 'inventing' consensus."

Pfeffer's (1981) masterful synthesis regarding the use of power in organizations considerably lengthened the list of strategies and tactics available to at least some political players. Pfeffer recognized that such strategems include the establishing of criteria by which a decision will be made, the selection of outside consultants, the formation of coalitions and alliances, the cooptation of organizational participants, the use of committees, and the creative employment of symbolic language as well as symbolic actions.

It is essential to note that Hoyle (1982, p. 89) viewed interests as the content of micropolitics. Interests are the substantive objectives toward which interest sets employ their power and influence. Interests are the ends toward which political players carry out their strategies. Inasmuch as interests are a major component of micropolitical studies, their investigation constitutes an appropriate line of inquiry.

Interests

The topic of divergent group interests within the domain of micropolitics can be delineated in a variety of ways. Morgan (1986, p. 149) defined interests as a "complex set of predispositions embracing goals, values, expectations, and other orientations and inclinations that lead a person to act in one direction rather than another." He (p. 150) identified "task," "career," and "extramural" interests. Task interests refer directly to one's work; career interests relate to aspirations for advancement; and extramural interests concern lifestyle preferences apart from task and career. Among educators, Hoyle (1982, pp. 88-89) distinguished "personal, professional, and political interests." Personal interests include "autonomy, status, territory and rewards." Professional interests embody preferences regarding such matters as pedagogy and curriculum. Political interests involve adherence to a political party and its policies. In another vein, Ball (1987, p. 17) classified interests as "vested," "ideological," and "self-interest." Vested interests pertain to "working conditions" and prospects for advancement. Ideological interests relate to "matters of value and philosophical commitment." Self-interest is associated with an individual's "sense of identity," and includes ideal aspirations for the self.

There is general agreement as to the heuristic character of the various classifications of interests. Hoyle (1982, p. 89) pointed to the difficulty of unravelling interests on the concrete level. Morgan (1986, p. 150) conceded that there are many possible ways to categorize interests. Ball (1987, p. 17) admitted that "in the analysis of particular events it is often difficult or impossible to separate one set of interests out ...." Consequently, the classification of interests remain a matter of practicality, related to the specific issues as hand.

With regard to methodology appropriate to the study of micropolitics within educational organizations, the application of a large-scale survey is not excluded. Studies in the micropolitics of educational institutions have generally been undertaken as case studies employing a variety of qualitative and quantitative approaches. Baldridge's (1971) case study of New York University, for example, applied participant observation, interviews, documentary analysis, and surveys. Pfeffer's (1981) synthesis regarding the use of power in

organization referred to case studies of universities in which analysis of statistical data figured prominently. Ball (1987) relied more extensively on a qualitative approach in his depiction of the micropolitics of schools. Hoyle (1982, p. 97), however, explicitly indicated the legitimacy and desirability of conducting micropolitical studies by means of social science methods which permit generalization.

B. THE SOCIAL FUNCTIONS OF UNIVERSITIES

The vocabulary of higher education has taken of late what might be termed a pathological orientation. Its lexicon of everyday usage has come to include such words as "austerity," "constraint," "contraction," "cutbacks," "decline," "downsizing," "financial stringency," "restraint," and "retrenchment." All of these words possess a decidedly pejorative connotation. Collectively they constitute a challenge to the underlying assumptions that have guided the growth and expansion of Canadian universities since the 1950s. Whatever the term used, it is clear that an earlier era of relatively affluent expansion has come to an end for universities.

The passing of this era calls into question the general social functions of universities -- their recognized roles in teaching, research and public service. In Canada and elsewhere the expansion of universities in size and in number was in part a response to the demographic pressures of the baby boom. This expansion was also motivated, however, by the belief that higher education held the key to greater economic prosperity, both for society and for individuals. Moreover, it was believed that higher education would serve to accommodate the growing aspirations of socially disadvantaged groups (Anisef and Lennards, 1985, p. 1873).

Higher education has not always been perceived as the key to economic and social progress. Prior to the Second World War, Canadian universities provided educational opportunities to a select few. Canadian universities' contributions to the war effort brought some measure of recognition to the universities as a national resource (Campbell, 1984, p. 838). With the end of hostilities, the universities expanded to accommodate returning veterans. Urged by the Massey Commission, the federal government undertook an active

involvement in the funding of universities in 1951 (Anisef and Lennards, 1985, p. 1873). The stage was set for the unprecedented growth and expansion of universities which occurred in the 1960s.

Canadian universities are currently recognized as experiencing financial difficulty (Leslie, 1980; Nowlan and Bellaire, 1981; Skolnik and Rowen, 1984). Over the past ten years, federal and provincial governments have lessened the level of financial support provided to universities. Grants to universities have not kept pace with operating costs, partly because of the general economic recession and governments' desire to reduce budgetary deficits (Skolnik and Rowen, 1984, p. 160). However, part of the reason for reduced funding may be a change in government priorities away from higher education (Skolnik and Rowen, 1984, p. 48). Whatever the reason, universities are being required to make do with less.

Leslie (1981, p. 195) identified some possible and commonly anticipated consequences of inadequate university funding: a lowering in the quality of instruction, a reduction of access to university education, inadequate research, and eventually a shortage of highly skilled manpower for the work force. Davenport (1981, p. 5) added that prolonged financial constraint at universities could have a detrimental effect on the growth of the economy. Such consequences do not seem desirable. Skolnik (1982) foresees the possibility that by the next century the entire higher education sector might be much smaller, and, indeed, that universities might have developed new roles more in keeping with a society operating on the assumptions of resource scarcity and limitations to growth. Such possibilities challenge the assumptions of continued growth prevalent both within universities and within society at large. However, Cazalis (1979) was probably correct in assuming that into the 1990s universities will only gradually evolve responses to financial constraint, and that the adaptions which universities make will be of an instrumental rather than fundamental character. Realistically, universities will be constrained for some years to come to make do with less, to adjust to the conditions of financial constraint imposed on them, but not necessarily to assume a change in social purpose.

C. ORGANIZATIONAL DECLINE AND CUTBACK MANAGEMENT

In the study of organizations, the topic of organizational decline is of relatively recent interest. This section introduces the notions of organizational decline and cutback management which serve as a background to this study's focus on faculty and financial constraint.

Levine (1978, p. 316) admitted that organizational decline and cutback management are relatively new concerns in public administration. Hitherto, a tacit assumption has prevailed that government organizations would increase in size just like public revenues and expenditures. Particular incidents of organizational decline have been regarded as anomalies, and consideration of the management of declining organizations has not constituted a part of the prevailing trends in public administration. Levine argued that interest in organizational decline and cutback management is timely, given the spectre of a "future dominated by resource scarcity."

Whetten (1980a, p. 577) presented organizational decline as "a neglected topic in organizational studies." This neglect was such that "little is available on the causes of decline, responses to decline, or the effects of decline on organizations." Whetten contended that organizational studies have focused on growth since the Second World War, a fact which reflects the concerns of organizations in the real world during an extended period of rapid growth. In such a setting, the topic of organizational decline held little interest for organizational researchers. Moreover, the avoidance of organizational decline as a topic in organizational studies reflects an ideological bias in North American society in favor of growth and progress. The topic of organizational decline has had about it the unpleasant aura of failure -- not success, which North American managers prefer. Whetten (1980a) concluded that in face of a coming era of diminishing resources, it is appropriate to develop a program of research, teaching and consultation to deal with the now relevant topic of organizational decline.

Organizational Decline

Levine (1978; 1979) dealt with organizational decline in the public sector, that is, in government organizations. He (1978, p. 316) described organizational decline simply as organizational change in face of a "scarcity of slack resources."

Whetten (1980b, pp. 342-374), however, addressed organizational decline from the context of the organizational life cycle, in the volume edited by Kimberly and Miles (1980). The fundamental insight of the theory of the organizational life cycle is rooted in the biological metaphor (Kimberly, 1980, p. 9). This theory compares the establishment, growth and decline of organizations to the birth, maturation and death of biological organisms. The theory stresses that organizations arise, change and suffer decline in a historical context, a perspective which departs from an ahistorical approach to the study of organizations, which examines organizations at only one point in time (Kimberly, 1980, p. 13).

The theory of the organizational life cycle includes recognition of the inherent limitations of the biological metaphor which it employs. Death is not inevitable for organizations (Kimberly, 1980, p. 7). Organizations do, on occasion, possess the resilience required to survive what might be considered their predictable life span. Moreover, organizations do not seem to pass through such distinct and foreseeable stages as biological organisms do (Kimberly, 1980, p. 7).

Whetten (1980b, pp. 345-346) assigned two meanings to the term organizational decline. First, the term is used "to denote a cutback in the size of an organization's work force, profits, budget, clients, and so forth." It is also used "to describe the general climate or orientation in an organization." It is with "decline-as-cutback," the first of the two uses, that Whetten is primarily concerned in the current "era of scarcity."

Zammuto and Cameron (1982, p. 250) presented an additional perspective on the nature of organizational decline, a perspective which may be described as an explicitly open systems perspective. Zammuto and Cameron considered that "decline is a multidimensional concept and that it is better modelled as environmental decline leading to an organizational response than as organizational decline. . . ."

The rationale for this perspective lies in its ability to conceive decline explicitly as an extension of the concept of organization-environment relationships. In this perspective, then, an organization does not decline on its own. Rather the organization responds to an environmental decline. The external environment of an organization is understood as a constellation of niches -- constraints and opportunities -- to which an organization adapts. Resource scarcity in the environment brings about a shrinkage in niche size or an alteration in niche shape.

Causes of Organizational Decline

Levine (1978, pp. 318-319) identified four causes of decline in public organizations. These four causes or types of organizational decline are problem depletion, environmental entropy, political vulnerability, and organizational atrophy. Problem depletion, the most familiar of the four, occurs for reasons beyond the control of an organization. The problem or problems for which a program was established no longer exist, and the organization conducting the program is consequently dissolved. Like problem depletion, environmental entropy lies beyond the control of the declining organization. Environmental entropy occurs when the environment of an organization is no longer able to support the organization's current level of activity.

Both political vulnerability and organizational atrophy stem from sources internal to a declining organization. Political vulnerability occurs when an organization lacks the resources and expertise to resist the environmental impetus for contraction. Older organizations are typically less vulnerable than younger organizations. Organizational atrophy occurs when, for whatever reason, organizational performance diminishes.

Whetten (1980b, pp. 355-362) also identified four very similar sources of organizational decline. (Zammuto (1982, p. 6) intepreted Whetten's (1980b) model of organizational decline as an adaptation of Levine's model for private sector organizations.) Whetten's four sources of organizational decline are organizational atrophy, vulnerability, loss of legitimacy and environmental failure. Organizational atrophy arises out of a "success

breeds failure" syndrome. Previously successful organizations attempt to continue their once successful approaches into an environment which has changed, but is not recognized as such. Vulnerability affects younger organizations more frequently than old. It arises from a lack of experience in dealing with changed economic and political circumstances. Loss of legitimacy arises from the failure of an organization to cultivate political ties which might support it, or from the passing of the problems for which the organization was first established. The fourth source of decline, environmental entropy, occurs when the environment is no longer able to furnish the resources which an organization requires. In this case, an organization may seek a new niche, or reduce the size of its operations.

Zammuto and Cameron (1982, p. 251) employed their model of environmental decline and organizational response to distinguish four types of decline, according to whether the decline is gradual or sudden, and according to whether the change involved pertains to niche size or to niche shape. "Erosion" refers to a gradual change in the niche size of an organization, whereas "contraction" refers to a sudden change in niche size. "Dissolution" refers to a gradual change in niche shape, and "collapse" corresponds to a sudden change in niche shape.

Effects of Organizational Decline

Whetten (1980b, pp. 368-371) pointed out several common effects of organizational decline. Foremost among these effects is increased individual stress among both managers and other organizational participants. Another effect is increased interpersonal conflict. Morevoer, the effects of decline are frequently borne in a disproportionate manner by certain organizational participants. Those with low status are often among the first to be dismissed. Across-the-board cutbacks are likely to be implemented because they are politically feasible and not likely to arouse objections, even though such cutbacks penalize efficient units. The ultimate possible effect of decline is, of course, organizational demise.

Cutback Management

A central concern regarding organizational decline relates to how an organization in decline can be managed. Levine (1978; 1979) treated this concern under the topic of cutback management. Levine (1979, p. 180) defined cutback management as "managing organizational change toward lower levels of resource consumption and organizational activity."

Levine (1979, p. 180) identified four major ways in which the management of a declining organization is different from the management of an organization operating on the assumption of growth. First, under conditions of decline, management can offer few incentives for change to organizational participants. Second, under conditions of decline, management encounters constraints which impede its task of making cuts. The most common of such constraints are collective agreements. Third, downsizing an organization gives rise to personnel problems concerning job satisfaction and morale. Fourth, under conditions of decline, creativity, innovation and risk taking all tend to diminish.

Management of a declining organization is beset with paradoxes that are absent in the management of a growing organization. Levine (1979, pp. 180-182) identified nine such paradoxes. First, the "paradox of irreducible wholes" refers to the fact that downsizing an organization is not the simple reversal of the process by which the organization was built up. Cuts made on one part of an organization can have unexpected effects elsewhere in the organization. Subtraction of organizational parts is not as hazard-free as addition of units in times of growth. Second, "the management science paradox" refers to the fact that during times of growth organizations frequently expand their policy analysis capabilities, but during times of cutback, when such capabilities would presumably become more crucial, such capabilities are often sacrificed in favor of direct service programs. The "free exiter paradox" points to the quandry of how to reward valuable organizational participants during times of cutback, when their temptation is to leave the declining organization for another in the process of growth.

One of the most striking of these paradoxes is the "tooth fairy syndrome" in which organizational participants believe that the decline is not permanent and that threatened cuts will not occur. Fifth, the "participation paradox" points to the awkwardness and difficulty of involving organizational participants in decisions in which they stand to be losers. Sixth, the "forgotten deal paradox" refers to the attempt of managers to arrange tacitly for adjustments over a longer time period. In the heat of cutbacks, short-term urgency can lead to such tacit arrangements being forgotten.

Seventh, the "productivity paradox" can be stated succinctly: "it takes money to save money." Resources are required to implement changes that would bring about productivity improvement. During a time of cutback, such resources are not easily obtained. The eighth paradox is the "mandates without money dilemma." Managers are held responsible for conducting programs for which adequate funds have not been allocated. Finally, the ninth paradox, the "efficiency paradox," refers to the fact that in across-the-board cuts it is the relatively more efficient units of an organization that are penalized by the apparently equitable cuts. Beset with these paradoxes, cutback management confronts managers with challenges not encountered in the management of a growing organization.

Levine (1979, p. 182) further described four general strategic choices for conducting cutback management. The first decision confronting a manager in a situation of cutback management is "to resist or smooth cuts." Management chooses to delay cuts or to direct them to those parts of the organization where they will have minimal long-term effects. The second decision confronting managers is to make a "deep gouge or small decrements." Management chooses either to implement drastic cuts in the hope of rebuilding the organization at some time in the future or to implement minimal decrements in hope of mitigating the effects of cutback. The third decision confronting managers is to "share the pain or target the cuts." Management chooses to implement cuts across-the-board or to implement cuts in specific parts of the organization. Frequently, in the early stages of decline, cuts are made across-the-board in order to minimize opposition. In later stages of decline, cuts are more likely to be made in specific parts of the organization. The fourth

decision confronting managers in a situation of cutback management lies between "efficiency and equity." Management chooses between implementing cuts in an economically efficient manner or implementing cuts in a manner which respects the needs of the less advantaged of the organizational participants.

In an alternate perspective, Whetten (1980b, pp. 362-368) classified administrative responses to organizational decline in a fourfold manner: defending, responding, preventing and generating. The first two of these responses are described as reactive. The defending response occurs frequently among governmental organizations. Organizational leaders protest against cutbacks on the basis that their organization's activities are socially useful, politically significant, and efficiently conducted. Responding to organizational decline, the second reactive response, entails a perception that cutbacks are indeed inevitable. Measures are taken to implement the cutbacks that are seen as unavoidable. In practice, both defending and responding to decline can occur simultaneously.

Preventing and generating are both described as proactive. The preventing response eliminates the need for an organization to adapt to its environment through such practices as "price fixing," "buying political influence," and "changing public opinion" (p. 366). The fourth response, generating, accepts the need for an organization to redesign itself. This response prescribes a strategy of innovation in order to match the organization to its new economic and social circumstances.

D. HIGHER EDUCATION AND THE CONDITIONS OF DECLINE

In the United States, the golden age of expansion in higher education extended from the 1950s to the early 1970s. This situation was to undergo change with the 1970s, until in the 1980s many American colleges and universities could be said to be affected by retrenchment -- a combination of financial constraint and enrollment decline. The golden age of expansion would give way to an age of survival.

The purpose of this section of the literature review is to furnish indications that American institutions of higher education have recently experienced and are experiencing,

albeit in varying degrees depending on the individual institution, the conditions of decline, both financially and with regard to enrollment. Accordingly, the topics of organizational decline and cutback management are of special interest and concern to institutions of higher education.

One early indication of the onset of conditions of decline is to be found in Cheit's (1971) *The New Depression in Higher Education*. During the 1960s, the postwar baby boom cohort had grown to college age, and, with confidence in higher education widespread throughout the nation, federal, state and private funds had enabled colleges and universities to accommodate the rising number of students. By 1970 circumstances were beginning to change as enrollment growth stabilized and financial stringency made itself known at colleges and universities.

On the basis of a survey and on-site interviews of 41 illustrative institutions, Cheit (1971) concluded that 70% of the American institutions of higher education were in or headed for financial difficulty. The core of their problem was identified as the cost-income squeeze -- anticipated expenditures were outstripping anticipated income. Colleges and universities were becoming victims of inflation. The result for the institutions in most difficulty was a curtailment of expansion and cuts in programs and staff. In a subsequent follow-up survey of the same institutions, Cheit (1979) confirmed that the unfavorable financial situation of colleges and universities was part of a general erosion affecting many institutions. He characterized their financial status as "fragile stability" (p. 16).

Boulding (1975) provided some evidence of the altered circumstances surrounding higher education in an article provocatively entitled "The Management of Decline." Boulding (1975, p. 8) adverted to the likelihood of enrollment decline over the next two decades and to the general economic downturn of the mid-1970s; an age of rapid growth has given way to an "age of slowdown." Higher education might be one of the sectors that first experiences decline. Funding for higher education is dependent on grants and on the willingness of society to view the funding of education as an investment in a public good. The clear implication is that in a time of economic downturn society might not be as able or as willing

to make investments in higher education as it has been previously.

Boulding saw as a priority for higher education the development of a new breed of administrators who are adept at adjusting to decline. The management of a declining institution requires skills different from the management of a growing institution, and many present administrators are ill-equipped. Finally, Boulding (1975, p. 64) called for the establishment of "invisible colleges," where administrators engaged in the management of decline could learn from each other's experience and insights.

Revealing the emerging context of financial difficulties at universities, particularly private universities, Cyert (1975) took up the topic of managing universities of constant or decreasing size. He noted that universities can no longer be assured that their revenues will be adequate to meet expenditures, and that consequently universities must take measures to decrease costs and increase revenues. While pointing out the possibility of using a marketing strategy at universities and suggesting some techniques of resource allocation, Cyert put emphasis on the strategy of establishing an equilibrium size for a university at a lower level of operations and of striving for excellence at that equilibrium size.

Cyert (1978) again took up the notion of an equilibrium size for a university, observing that enrollment decline was probable for the 1980s. The notion of equilibrium size runs contrary to traditional management perspectives that favor growth and expansion. The initial obstacle to acceptance of this notion is a belief that constant size can be equated with organizational deterioration. If this obstacle can be overcome, university administrators can direct their efforts to increasing revenue by improving efficiency within the university. The tasks of university administrators in this situation also extend to efforts at diversification of programs and to acquiring additional resources from outside the university. In face of inflation, a constant size can be maintained only by the expansion of resources. Above all, in managing a university at constant size, it is necessary for administrators to focus faculty attention on professional goals and strive for excellence at the equilibrium size.

By the end of the 1970s, Mortimer and Tierney (1979) were addressing reduction, reallocation and retrenchment as pertinent topics for institutions of higher education in the

1980s. The pertinence of these topics arose from the anticipated enrollment decline and the cost-income squeeze at most American colleges and universities.

Examining the environment of postsecondary education in the 1980s, Mortimer and Tierney (1979, p. 52) first of all anticipated a national decline in the number of college-age persons, a decline which would last into the 1990s. They also anticipated regional variations in the severity of the decline. Anticipations of the precise severity of the enrollment decline for a particular institution are further complicated by the unpredictability of shifts in student interest. Such interests currently tend toward career-related fields and away from traditional liberal arts.

Second, and more importantly in Mortimer and Tierney's (1979, p. 52) estimation, most institutions would face a cost-income squeeze in which trends in institutional expenditure would outstrip trends in institutional revenue from all sources -- tuition and fees; federal, state, and local government appropriations; private donations; endowment; and other income. This cost-income squeeze holds true for both public and private institutions. In the American context, enrollment decline is also a financial problem because a decline in enrollment entails a loss of tuition as well as of enrollment-driven appropriations.

The consequences of enrollment decline and the cost-income squeeze are the imperatives of reduction, reallocation and retrenchment. Concentrating their attention on expenditure control rather than the generation of revenue, Mortimer and Tierney (1979) foresee the necessity for the following: reduction in rates of growth of institutional expenditures -- especially salary rates; reductions in base budgets -- through changes in staff composition and student-faculty ratios; internal reallocations -- to priority programs; use of program review for resource reallocation; staff dismissals; and program discontinuance (pp. 24-48). Such measures are aimed at achieving financial flexibility for the institution. Mortimer and Tierney (1979, p. 53) concluded that the implementation of such measures would evidently place stress on traditional governance arrangements because they tend to be deliberative and thus ill-suited to situational demands for fast and decisive action.

Writing to advise on the general administration of colleges and universities in the 1980s, Mayhew (1980, p. ix) premised his entire book on the belief that colleges and universities must be prepared for a period of no growth and possible decline. The source of this possible decline is illuminated in the subtitle of his book: *Strategies and Procedures for Solving Fiscal and Enrollment Problems*. The whole of college and university administration is permeated, thus, with the preoccupations of financial constraint and enrollment decline.

Illustrating by case studies both successful and failed institutional adaptation to the prevailing circumstances of higher education, Mayhew outlined various strategies that enhance an institution's chances for survival. At the most general level, planning is to take into account an institution's particular social environment as well as the economic and demographic trends that may affect the institution's operations. Unless an institution is on the verge of collapse when only crisis management is appropriate, management information systems are to be established to monitor financial performance and enrollment patterns within the institution.

Measures to stem enrollment decline are to be undertaken in a context of increasing inter-institutional competition for limited numbers of students. These include more sophisticated efforts at recruitment and retention as well as efforts to attract students through curriculum changes. In face of inflation, higher energy costs and inadequate endowments, efforts must be directed to eliminating deficits and to effecting expenditure reductions with regard to both programs and personnel. Overall, Mayhew's book on the administration of colleges and universities during the 1980s revealed an administrative preoccupation with financial constraint and enrollment decline that was not evident during the expansionary period of higher education.

Further indications of an impending general enrollment decline in American colleges and universities are evident in a number of articles. Crossland (1980) and Frances (1980), for example, engaged in a debate over the merits of different strategies for coping with the enrollment decline.

Crossland (1980, p. 20) advocated that colleges and universities plan for contraction during the period 1980 to 1995. He anticipated that nationwide there would be a 26 percent decrease in the college-age cohort during this period, and that consequently full-time equivalent college enrollment would likely fall. Older students, part-time students, and nontraditional students might compensate to some extent, but the net reduction in full-time equivalent enrollment would still be 15 percent nationally. Northeastern American states are likely to experience even more severe enrollment declines.

Frances (1980) for her part disagreed that anticipated declines in college enrollments would necessarily occur because of a decline in the college age population. The occurrence of college enrollment decline is just one possibility among others. Identifying 12 groups with additional college enrollment potential, Frances (1980, p. 40) advocated strategies to offset the projected decline by attracting students.

Another example of concern for enrollment decline can be found in the research reported by Zammuto (1983) and Zammuto, Whetten, and Cameron (1983). Examining trends in enrollment decline in the 1970s among American colleges and universities, they contend that enrollment decline is not a simple concept. Rather, enrollment decline occurs in four varieties -- "erosion," "contraction," "dissolution," and "collapse" -- and each variety requires its own particular strategy as an adequate response (Zammuto, Whetten, and Cameron, 1983, p. 97). Such research efforts into the phenomenon of enrollment decline clearly presuppose the existence of enrollment decline as a matter of concern to American colleges and universities.

Finally, Mingle's (1981) edited volume, entitled *Challenges of Retrenchment*, provided conclusive indications of the pervasiveness of enrollment decline and financial constraint among institutions of higher education in the United States. The volume is comprehensive in its delineation of issues and choices facing administrators of higher education as their institutions adjust to the twin problems of retrenchment.

With due regard for both private and public institutions, Mingle first addressed various strategies by which institutions can cope with enrollment decline and financial

constraint in a manner compatible with their basic educational goals. He included a treatment of warning signs that serve as indicators of impending institutional distress. Choices for institutions extend not only to program and personnel cutbacks, but also to institutional merger and closure.

Mingle, however, went beyond considerations of institutional strategies for coping with enrollment decline and financial constraint. He extended his treatment of retrenchment to considerations of public policy affecting institutions of higher education. Because the federal role in American higher education appears to be receding, attention focused on the definition of appropriate state roles for contending with enrollment decline and financial constraint from a system wide perspective. Discussed were issues such as enrollment quotas, the possibility of changes in state funding formulas, and the potential of program evaluation as a vehicle for institutional retrenchment. Evidently, program evaluation conducted under the circumstances of retrenchment easily comes to be seen as a "highly threatening" process (Barak, 1981, p. 217).

E. THE CANADIAN SCENE

The purpose of this section of the literature review is twofold. The first purpose is to provide indications of the existence of financial constraint at Canadian universities at the time of the survey conducted in this study (January, 1986) and to the present. The second purpose is to provide indications that enrollment decline was not a matter of immediate concern to Western Canadian universities when this survey was undertaken. In other words, while many American colleges and universities were experiencing conditions of decline as financial constraint and enrollment decline, Western Canadian universities were experiencing conditions of decline as financial constraint under circumstances of stable and increasing enrollment. In what follows, the Canadian situation is depicted under the headings of financial constraint and enrollment trends.

Financial Constraint

The term "financial constraint" as used in this study is understood as a diminution of the level at which universities are being funded. Given the prevailing inflationary economy, the consequence of this diminution is a cost-income squeeze necessitating organizational adaptation to a reduced level of operations.

There are ample indications in the literature relating to Canadian higher education of the situation of financial constraint facing Canadian universities. Canadian universities enjoyed a period of growth and expansion supported in part by the impetus of the baby boom reaching university age and in part by remarkable public confidence in the benefits of university education both for individuals and for the national economy. These halcyon days, however, were to give way to less munificent times.

The 1970s stand as a time between the expansion of the 1950s and 1960s, on the one hand, and the more troubled times of the 1980s, on the other. Leslie (1980) described the 1970s as a decade of uncertainty for Canadian universities. For a time in the early 1970s, university enrollments dipped. This temporary fluctuation in enrollment was to lessen the momentum of university expansion. Leslie (1980, p. 8) described the circumstances of this fall in enrollment observing that, "In 1971 the federal government announced a 'cap' on its transfers of money to the provinces in support of postsecondary education, and provincial expenditures henceforth grew at a much more modest rate than had previously prevailed...." Public confidence in the benefits of university education for the national economy also wavered. Evans (1977, p. 41) as well noted that the 1970s were marked by a change in the attitudes of governments towards university expenditures; governments which previously encouraged the growth of universities grew preoccupied with control of costs.

In his book, entitled *Canadian Universities: 1980 and Beyond*, Leslie (1980) made recommendations for revisions in funding practices in support of Canadian universities. He characterized the 1980s as a period in which universities would increasingly be preoccupied with survival: their problems would involve not only financial difficulties but eventually would also entail failing student numbers (p. ii). Nor was Leslie alone in his prognosis of

financial difficulties for Canadian universities. While reviewing matters likely to affect Canadian universities in the 1980s, Campbell (1984, p. 847) also identified the issues of retrenchment and financial stringency.

A prominent source of the financial difficulties facing Canadian universities is to be found in the manner in which they are funded. Canadian universities are funded primarily through public support. From 1967 to 1977 the funding of Canadian universities was regulated under the Federal-Provincial Fiscal Arrangements Act, by which the federal government matched provincial spending in the realm of postsecondary education on a cost-share basis. The complexity of this arrangement reflects distinctive features of Canadian confederation, which grants provinces jurisdiction over education under the British North America Act of 1867 (now the Constitution Act) whereas the federal government retains large powers of taxation.

In 1977 the Fiscal Arrangements Act was replaced by the Established Programs Financing Act (EPF). It was, in 1982, renewed and extended to 1987. Through the EPF, the cost-sharing or conditional matching grant arrangement was replaced by an unconditional block grant arrangement, in which the federal government transfers funds -- in cash and in tax points -- to the provinces in support of hospital insurance, medicare and postsecondary education. Wu (1985a, p. 12) observed that whereas the Fiscal Arrangements Act related increases in funding to postsecondary operating costs, the EPF relates increases in funding to growth in the gross national product.

Two distinct but related consequences emerged from the EPF. First, since the introduction of the EPF there has been a slowed rate of increase in federal funding in support of postsecondary education. Wu (1985a) showed that for the period 1977 to 1983 federal contributions to postsecondary education, with adjustments for inflation, did not keep pace with the increase in postsecondary operating costs.

Second, because of the unconditional nature of the block grant for postsecondary education, the provinces could spend these funds according to their own priorities. Without the incentive provided by a cost-sharing agreement most of the provinces spent less on

postsecondary education. Wu (1985b, p. 46), examining the trends in provincial expenditure with respect to postsecondary education, concluded that in per capita and per student terms, provincial spending has declined steadily since the introduction of the EPF.

The theme of the financial plight of Canadian universities in the 1980s is evidenced elsewhere as well. Skolnik (1982, p. 5), for example, sharply criticized "the challenge to do better with less" which has been thrust upon Canadian universities. It is nothing less than incredible to have severe budget cuts imposed on universities and simultaneously to expect improved performance from them. Welch (1983, p. 1) spoke discouragingly of "the chronic underfunding of the past five years" and called upon federal and provincial governments to establish a restructured system of university financial support.

The troubled financial situation of Canadian universities is further illustrated by the appearance of new and timely topics. Bélanger and Tremblay (1982) put forward planning procedures for the orderly implementation of program discontinuance as well as resource reallocation. Meanwhile, Hardy (1984) discussed methods of cutback management appropriate for Canadian universities. Skolnik and Rowan (1984) reported the results of a survey, directed to some 600 university presidents and deans, on the impact of financial constraint on Canadian universities.

Financial constraint at Canadian universities in the early 1980s has been tied closely to the fate of the respective provincial treasuries. The general recession and unemployment did not fall upon all provinces with equal severity, and consequently some diversity existed among the universities of Western Canada with regard to the degree of financial constraint. Universities of British Columbia were most severely affected. That province undertook a series of cutback measures directed at universities and parts of the public service as early as 1982. In the process of so doing, the province achieved some national notoriety for the harshness of its approach (Savage, 1984, p. 1). In 1985, Alberta universities were struggling to maintain their programs with diminished grants while the provincial treasury continued to draw on its savings acquired through oil revenues. Universities of Manitoba and Saskatchewan found themselves between the tolerable circumstances of Alberta and the harsh

measures of British Columbia.

Finally, debates continue to the present day on the financing of Canadian postsecondary education. Desrosiers (1986) concluded that, in light of the ongoing concern of the federal and provincial governments to reduce their deficits, financial constraint will remain for the foreseeable future. Sibley (1987, p.121) noted the continuing problem of university underfunding and the unwillingness of government to provide "operating increases commensurate with the increased loads experienced in all regions of institutional activity." In addition to demands for funding in areas other than postsecondary education, Sibley attributed the governments' policies of "slow strangulation" to their lack of confidence in universities' systems of decision making. Cameron (1987, p. 2), while conceding that universities are affected by important issues other than insufficient funding, reiterated the persistence of this issue. In consequence, Canadian universities are faced with difficult choices on how to allocate their limited resources.

Enrollment Trends

The conditions of decline for universities have been different in the United States and Canada. Whereas American colleges and universities have generally experienced conditions of financial constraint associated with enrollment decline, Western Canadian universities have experienced financial constraint under conditions of stable and increasing enrollment.

Smith (1981, p. 262) observed that even in the United States the phenomena of enrollment decline and fiscal decline have on occasion operated separately. He pointed to the example of the University of Wisconsin in the 1970s, "when the system faced progressive fiscal stringency in the presence of enrollment increase." This description matched the situation of the universities of Western Canada at the time when the survey of the present study was conducted in January, 1986.

Data from Statistics Canada indicate that enrollment at universities in Western Canada was at or near an all-time high in January, 1986. Table 2.1 presents figures for full-time university enrollment at universities in Western Canada by province. The general

Table 2.1

Full-time University Enrollment at Universities of Western Canada by Province 1980-85

Province	1980-81a	1981-82a	1982-83b	1983-84c	1984-85d	1985-86e
Manitoba	16565	17716	19794	20653	20637	20344
Saskatchewan	14584	15820	17618	19132	19454	19460
Alberta	31220	33745	36949	40210	41628	42756
British Columbia	31584	32674	34303	37214	36481	35799

Sources

a Statistics Canada (1983, p. 32)
b Statistics Canada (1984b, pp. 10-13)
c Statistics Canada (1985, pp. 10-13)
d Statistics Canada (1986, p. 19)
e Statistics Canada (1987, p. 7)

trend for full-time enrollment for 1980-85 is that of relatively rapid increase to 1983-84 and slow increase from that point on. (The figures presented in Table 2.1 include enrollment in all universities in those provinces, even those universities not included in the survey of the present study.)

Table 2.2 presents figures for full-time university enrollment at universities in Western Canada by institution. The data extend from fall 1980 to fall 1985, the last year for which Statistics Canada has published enrollment figures. Once again, the general trend is for increasing or stable enrollment.

Enrollment decline may become a matter of concern to Canadian universities in the late 1980s and the 1990s. Statistics Canada's (1983) projections do indeed forecast such declines, varying from province to province, based on the diminishing number of young adults in the 18 to 24 year old cohort. Evidently, however, enrollment decline was not a matter of immediate concern for the universities of Western Canada at the time the survey for the present study was undertaken in January, 1986. Consequently, responses to financial constraint that rely on increasing enrollment might be expected to be less viable options in the Canadian situation than in the American. A more pressing concern for the Canadian universities is to accommodate the high numbers of students with the limited resources available.

One may assume, however, that this is a temporary distinction. Canada has traditionally followed the United States by about 10 to 20 years in virtually all postsecondary developments. Also, the United States has a higher participation rate than Canada, due to its policies of expanded access. Canada has a decade of grace to protect it while nontraditional enrollments expand. In short, both nations share a common problem, but the articulations of the two phenomena (financial constraint and enrollment decline) are in different phases.

Table 2.2

Full-time University Enrollment at Universities of Western Canada by Institution 1980-85

Institution	1980-81a	1981-82a	1982-83b	1983-84c	1984-85d	1985-86e
Brandon U.	939	1072	1387	1482	1463	1358
U. of Manitoba	12858	13984	15221	16289	16076	15589
U. of Winnipeg	2398	2468	2792	2436	2678	3018
MANITOBA	16195	17524	19400	20207	20217	19965
U. of Regina	3643	4033	4763	5475	5463	5490
U. of Saskatchewan	10459	11282	12348	13136	13539	13547
SASKATCHEWAN	14102	15315	17111	18611	19002	19037
U. of Alberta	18273	19560	21049	22914	23624	23824
U. of Calgary	11078	12106	13431	14572	15204	15382
U. of Lethbridge	1489	1752	2191	2426	2536	2648
ALBERTA	30840	33418	36671	39912	41364	41854
U. of British Columbia	19779	20059	20772	21890	21267	21157
Simon Fraser U.	5038	5270	5591	7057	6818	6548
U. of Victoria	5668	6263	6723	7192	7001	6837
BRITISH COLUMBIA	30485	31592	33086	36139	35086	34542

Sources

a Statistics Canada (1983, p. 32)
b Statistics Canada (1984b, pp. 10-13)
c Statistics Canada (1985, pp. 10-13)
d Statistics Canada (1986, p. 19)
e Statistics Canada (1987, pp. 10-13)

F. RESPONSES TO FINANCIAL CONSTRAINT AT UNIVERSITIES

One major theme in the literature related to faculty and financial constraint focuses on the topic of possible responses in institutions of higher education. The implicit question which much of the literature addresses is what can be done in order to deal with financial constraint? The possible means of dealing with financial constraint at a university are numerous. Mayhew (1980, pp. 306-322) provided a list of 319 means of increasing income and decreasing expenditures. These means ranged from increasing tuition to raffling off a scholarship, and from reducing the number of faculty to eliminating sports activities.

There are, however, two large sets of alternatives for solving the typical problems of financial constraint. One consists of measures which are premised on the view that these problems are amenable to budgetary cutbacks and resource reallocations. The second set of alternatives consists of measures which are postulated on the view that these problems are amenable to program innovations and expansion, which might gain additional public and financial support. To these may be added a third set -- process measures, concerning the manner in which alternatives are implemented. In what follows the various measures for dealing with financial constraint are treated under the headings of cutbacks and reallocations, innovations and expansion, and process measures.

Cutbacks and Reallocations

Cutbacks may be directed to a variety of activities and persons within a university: academic and institutional support, programs, personnel and students.

Cutbacks may be directed to academic and institutional support, such areas of activity being considered less central than the activities of teaching and research. Campbell (1982), and Petrie and Alpert (1983) referred to budgetary reductions directed to library services. Bowen (1983) and Mortimer and Taylor (1984) referred to deferred maintenance, while Campbell (1982) and Petrie and Alpert (1983) pointed out the practice of postponing equipment purchases. Campbell (1982) and Cherry (1978) alluded to reductions in the category of instructional supplies. Campbell (1982), Cherry (1978), and Mortimer and

Taylor (1984) noted the cutting of travel budgets for faculty. Petrie and Alpert (1983) added to such cutbacks those directed to faculty computer use. Babcock (1981) and Cherry (1978) mentioned freezing of nonacademic salaries or vacant nonacademic positions. Bowen (1983), Cherry (1978), and Dolan-Greene (1981) made remarks on the possibility of reducing general administration, either in numbers or in expenditure. Finally, Bowen (1983), Brantley, Miller and McAlpine (1979), and Pondrom (1980) observed the practice of utility cutbacks.

Cutbacks may also be directed to programs considered to be of low priority. Dougherty (1981), Franklin (1982), Jedamus (1980), Johnstone (1981), Morgan (1982), Petrie and Alpert (1983), and Shirley and Volkwein (1978) mentioned the possibility of program reduction or discontinuance. Similarly, Franklin (1982) and Melchiori (1982) alluded to the closing of entire departments. Brantley et al. (1979) and Melchiori (1982) pointed out the option of merging departments, thus cutting back on administrative supports.

Cutbacks, moreover, may be implemented through various measures directed to reduction of personnel expenditure. Campbell (1982), Cherry (1978), Mortimer and Taylor (1984), and Lozier and Althouse (1983) pointed out the often-used policy of attrition, that is, of leaving vacant faculty positions unfilled. Bowen (1983), Budig (1975), and Lozier and Althouse (1983) made mention of the expedient of filling vacant positions with temporary appointments. Bowen (1983), Budig (1975), and Rubin (1979) identified the practice of slowing down the rate of promotion through tenure quotas. Pondrom (1980) alluded to the possibility of reducing the number of tenure commitments. Babcock (1981), Brantley et al. (1979), Cherry (1978), and Johnstone (1981) noted the practice of increasing faculty workload or the student-faculty ratio. Babcock (1981), Bowen (1983), and Campbell (1982) reported the option of holding down or reducing faculty salaries. Finally, Pondrom (1980; 1981) and Weeks (1980) made mention of the actual dismissal of untenured and tenured faculty who are deemed redundant.

A set of measures closely related to those directed to obtaining reduction in personnel expenditure consists of voluntary alternatives to dismissal. Bowen (1983), Johnstone (1980), Morgan (1982), and Patton (1983) noted the option of providing faculty with incentives for

early retirement. Patton (1983) also suggested the practice of gradual retirement, that is, offering part-time work to faculty near the age of retirement. Bouchard (1980) and Strohm (1983) identified the option of retraining faculty for academic areas in which shortages can be foreseen. Finally, Small (1979) singled out the possibility of facilitating faculty career changes outside the university.

Cutbacks or increased charges may also be directed to students. Franklin (1982), and Rubin (1979) referred generally to the option of reduction in student services or the abolition of a student services unit. Bowen (1983) and Cherry (1978) indicated the possibility of increasing tuition fees, while Cherry (1978) and Melchiori (1982) recognized the device of increasing user fees. Wolfman and Wolfman (1980) observed the practice of raising admission standards to limit enrollment. Babcock (1981), Petrie and Alpert (1983), and Pondrom (1980) made mention of reduction of graduate assistantships.

Innovations and Expansion

The second large set of alternatives for dealing with conditions of decline consists in undertaking program innovations in promising areas which might gain additional public and financial support. Whetten (1981, p. 83), describing the crisis of scarcity in educational institutions as both danger and opportunity; chided administrators for focusing too exclusively on cutbacks measures. He advocated that administrators consider program innovation and long-term effectiveness rather than concentrating on resource reallocation and efficiency exclusively. In this perspective, resource scarcity may become a stimulus for identifying new educational opportunities, and, while some programs may be contracted, others may be simultaneously expanded.

Cameron (1983, p. 362) agreed with Whetten that administrators of educational institutions are too prone to view the problems of scarcity as amenable to resource reallocation. Cameron (1983, p. 374), however, conceded that universities cannot totally relinquish cutback measures as means of dealing with conditions of decline. He emphasized, nonetheless, that administrators might also consider more proactive responses to conditions of

decline.

What these proactive responses have in common is an understanding of the educational institution as an open system rather than a closed system. Both Cameron (1983) and Whetten (1981) agreed that the desired outcome of the innovations undertaken by a university is a more favorable ecological niche. Attention turns now to examples of this second large set of alternatives furnished first by Cameron (1983) and then by Doyle (1980).

Cameron (1983, pp. 370-371) pointed out three strategic responses available to institutions of higher education facing conditions of decline. The proximate source of these three strategies lies in the private sector, specifically in the example of various American tobacco companies which adapted to conditions of decline in their industry. These three strategic responses are: domain defense, domain offense, and domain creation.

The underlying source of Cameron's (1984, pp. 123-132) alternatives is found in a consideration of four possible approaches to organizational adaptation in higher education. He anticipates that the external environment of the emerging postindustrial society, characterized by "increases in knowledge, complexity, and turbulence," will necessitate new degrees of versatility in adaptation (p. 143). Cameron identified two approaches to adaptation which assume minimal managerial influence on the environment, namely, the "population ecology" approach and the "life cycle" approach. The first of these regards organizational adaptation as a survival of the fittest, whereas the second views organizational adaptation as a progression through various developmental tasks. Cameron specified two further approaches which assume substantial managerial ability to address environmental change. These are the "strategic choice" approach and the "symbolic action" approach. The symbolic action approach considers organizational adaptation as a matter of constructing shared meaning concerning the interpretation of environmental influences. It is, however, the strategic choice approach from which Cameron's three strategic responses emerge (p. 128). In this approach, organizational adaptation is understood as the selection and implementation of responses to make the organization match its environment more adequately.

Under the heading of domain defense, Cameron (1983, pp. 374-375) proposed increased lobbying activities to stengthen the legitimacy of a university's activities and to gain valuable lead time for planning. With regard to domain offense, he proposed the expansion of a university's clientele in existing programs through marketing, recruitment and active public relations initiatives. He also included efforts to cultivate additional revenues under the heading of domain offense. With regard to domain creation, he advocated establishing new programs in high-demand areas. The activities related to domain creation, follow sequentially upon the activities related to domain defense and domain offense because, in Cameron's view, efforts at domain creation are likely to fail without the legitimacy provided by domain defense and the resources provided by domain offense (p. 375).

Doyle (1980) was similar to Cameron in emphasizing the role of innovation as a response to conditions of decline in higher education. Relying on Leslie and Miller's (1974) adaptation of a model developed originally for business firms by the economist, Joseph Schumpeter, Doyle put forward a framework for managing institutions of higher education during a period of no growth. This framework includes five categories of innovations by which institutions of higher education might gain an advantage over competing institutions and so survive and even prosper despite generally unfavorable conditions of contraction. The five categories of innovation which Doyle (1980, p. 142) put forward are as follows: (1) development of new courses and programs; (2) improving institutional activity, either in instruction or in administration; (3) new sources of students; (4) new sources of income; and (5) reorganization within, between and among institutions of higher education.

Doyle (1980, pp. 142-146) provided examples of each of these five categories of innovation. Under the heading of new courses and programs, he emphasized those courses and programs relevant to students' future employment as well as nontraditional offerings. With regard to improving institutional productivity, he included such options as modernizing instructional techniques, increasing student-faculty ratios, and administrative efforts aimed at achieving a reduction in faculty numbers. Under new sources of students, he saw increased numbers of adult students, transfer students, the disadvantaged, the incarcerated and foreign

students. With regard to new sources of income, he mentioned heightened efforts at acquiring revenue from tuition increases, from corporate benefactors, and from lobbying for government appropriations. Finally, under the rubric of reorganization, Doyle gave such examples as departmental reorganization on a multi-disciplinary basis; program review and institutional self-study with a view to termination of low priority programs; inter-institutional cooperation in joint use of resources (consortia); and rationalization of programs through government coordinating agencies.

Process Measures

The foregoing two large sets of alternatives for dealing with conditions of decline can be considered substantive measures. They focus on cutting costs or increasing revenues. To these sets a third may be added, process measures for dealing with conditions of decline. Berger (1983a, pp. 5-6) distinguished between substantive and process measures. Such process measures do not focus directly on cutting costs or generating revenue; rather, they focus on the means by which administrators might gain acceptance for substantive measures and on the guidelines for implementing substantive measures to deal with conditions of decline.

Such process measures include decisions as to the degree of faculty involvement in the development of responses to conditions of decline, decisions as to review an institution's mission, or to establish a task force. Process measures also include the guidelines developed to deal with the termination of redundant faculty members and with the criteria by which such terminations are justified (seniority or program needs). Furthermore, process measures encompass the development of guidelines for the process of possible program discontinuance and for the use of program review as a means of determining program priority. Finally, process measures include the rules and procedures by which cutbacks may be implemented: across-the-board cuts, selective cuts, or a financial mechanism to reallocate resources.

The literature reviewed on university responses to conditions of decline abounds with references to process measures. Examples of these process measures follow. Franklin (1982),

Hansen (1979), Melchiori (1982), Powers (1982), and Strohm (1983) mentioned the desirability of faculty involvement in the development of responses to conditions of decline. Christ-Janer (1980), Cherry (1978), Kotler and Murphy (1981), and Morgan (1982) advocated a review of an institution's mission as one part of the development of responses to conditions of decline. Moore (1978) and Morgan (1982) recognized the utility of establishing a task force or initiating self-study.

Howe (1980), Ishler (1981), Rose and Hample (1981), Pondrom (1980), and Powers (1982) drew attention to the need for guidelines regarding the termination of redundant faculty. Rose and Hample (1981), Petrie and Alpert (1983), and Weeks (1980) identified seniority as one possible criterion of termination. Dougherty (1981), Franklin (1982), and Melchiori (1982) emphasized the utility of guidelines for the process of possible program discontinuance. Morgan (1982), Shirley and Volkwein (1978), and Bélanger and Tremblay (1982) pointed out the alternative of using program review as a means of determining program priority.

Campbell (1982), Jedamus (1980), Melchiori (1982), and Powers (1982) referred to the across-the-board cutbacks as one means of dealing with conditions of decline, whereas Campbell (1982), Melchiori (1982), Mortimer and Taylor (1984), and Pondrom (1980) made mention of selective cutbacks. Finally, Lozier and Althouse (1983), Mims (1980), and Bélanger and Tremblay (1982) suggested the establishment of a financial mechanism to reallocate funds to priority areas within a university facing conditions of decline.

G. ORGANIZATION THEORY AND INSTITUTIONAL RESPONSES TO FINANCIAL CONSTRAINT AT UNIVERSITIES

This section of the literature review addresses the convergence of the literature regarding organizational decline in organizations generally and of the literature regarding the management of financial constraint and enrollment decline at universities. Despite some notable differences in emphasis, the theoretical and practical approaches to organizational decline are generally compatible. Both approaches consider financial constraint at universities

from the viewpoint of senior administrators.

Levine (1978; 1979), Whetten (1980a; 1980b; 1981), Cameron (1983), and Zammuto and Cameron (1982) can be regarded as representative of the literature regarding organizational decline in organizations generally. As has been indicated above in Section C of this chapter, these writers treat organizational decline in broad terms. They deal with the nature and various possible causes of organizational decline, as well as with general responses to the problems of organizational decline. It is their focus on the nature of, causes of, and general solutions to organizational decline that constitute their particular contribution to this study.

In contrast, writers who address the problems of organizational decline in universities tend to assume as given and well-known the causes of organizational decline -- namely, financial constraint and enrollment decline -- and to direct their attention to the consideration of some particular set of particular measures for dealing with these problems. They write with a sense of urgency to share insights into the management of their institutions, which are perceived as struggling to survive.

Their emphasis is understandable as a practical preoccupation with developing adequate responses to the conditions of retrenchment at their institutions. Such an emphasis can easily be understood as the outcome of the distinction between a theoretical and a practical approach to organizational decline. In short, whereas writers treating organizational decline in organizations generally tend to treat the topic globally, writers treating organizational decline in universities tend to focus on the practical issues related to the development of adequate responses.

Along with this first difference in emphasis, and closely associated with it, goes a tendency for the writers treating organizational decline in universities to be prescriptive rather than descriptive with regard to the responses which they describe. This prescriptive characteristic of the literature on organizational decline in universities holds whether the writers report their research in the form of case studies or simply provide advice on a particular set of responses to organizational decline.

Case studies, either singly or in clusters, are a common form which this literature takes. Examples of the case study approach are provided by Babcock (1983), Christ-Janer (1980), Crosson (1983), Franklin (1982), and Melchiori (1982). Examples of case studies in clusters are provided by Brantley et al. (1979), Campbell (1982), Cheit (1971; 1973), Hyat, Schulman and Santiago (1984), and Rubin (1977).

In these case studies, predominantly American in origin, the writers typically describe the particular situation of their target institution (or institutions) facing decline, along with the specific institutional responses implemented to cope with the institution's problems. The writers, either explicitly or implicitly, advise their readers to implement similar strategies with due allowances for institutional uniqueness. The unit of analysis in these case studies is most frequently the whole institution, and the advice offered is most commonly directed to senior institutional administrators.

Other writers treating organizational decline at universities simply offer advice on the advantages and/or disadvantages of a specific set of responses to organizational decline. Brown (1979), for example, put forward some guidelines for assessing faculty productivity. Ishler (1981) presented a model of an institutional retrenchment policy. Patton (1983) considered the pros and cons of voluntary alternatives to dismissal. Kotler and Murphy (1981) and Jonsen (1984) advocated the implementation of long-range strategic planning. Mims (1980) and Volkwein (1984) reported on the benefits of budgetary mechanisms for reallocating funds within an institution. Rose and Hample (1981) presented considerations regarding the development of a process to deal with potential faculty reduction. In short, advocates can be identified for virtually any particular set of responses to organizational decline at universities.

With regard to the tendency in the literature on organizational decline at universities to be prescriptive, Skolnik and Rowen (1984, pp. 136-137) indicated that some caution is in order. Most often the guidelines offered remain untested and unevaluated. Hardy (1984, p. 65) also shared this reservation and noted that more empirical research is required in order to identify the adequacy of various institutional responses under varying circumstances.

H. FACULTY PERCEPTIONS AND PREFERENCES

This section of the literature review centers directly on faculty members' perceptions of the impact of financial constraint on their academic activities, and on faculty members' preferences for various measures for dealing with financial constraint.

Perceived Impact

Powell (1981) investigated the impact of financial constraint and enrollment decline on the professional lives of academics through interviews of 73 academic staff at Monash University, the University of New South Wales, and the Western Australian Institute of Technology. Although Powell's findings were not widely generalizable because of the relatively small number of staff interviewed, they nonetheless yielded some tentative insights into the ways in which faculty viewed themselves as affected by retrenchment.

Powell (1981, pp. 28-30) reported findings related to quality of instruction, research, career opportunities, institutional life and institutional responses. Approximately half of the respondents indicated that their teaching workloads had grown, leading to less contact with students. Concerns were also expressed regarding diminished support for libraries and decreased availability of teaching materials. Few respondents claimed that their research had suffered because of lack of funds; much effort had been given to the increased acquisition of outside research funds. Most respondents perceived that prospects for career advancement had diminished. Junior staff in particular found the lack of prospects for promotion demoralizing. Little change was reported with regard to the quality of life in the academics' institutions "beyond a general feeling of uneasiness with regard to the future." Despite a general dissatisfaction with their institutions' responses to circumstances of retrenchment, there was no agreement on what course of action should be taken. Much criticism was aimed at policies of staff attrition and increases in the number of short-term appointments. Overall, respondents viewed the effects of retrenchment circumstances in a negative manner, although they conceded that the situation had promoted some serious reflection on their activities. Powell also observed that academics at different institutions tended to perceive

their situation in a similar manner. Powell concluded that at the time of the interviews the professional life of academics had not been seriously affected by retrenchment circumstances, and that the major impact of retrenchment circumstances had been in decreased morale.

Preferences

In their study entitled "Faculty and Department Head Preferences for Dealing with Retrenchment Demands," Dallam and Hoyt (1983) approached the topic of retrenchment from the viewpoint of faculty members. In so doing, Dallam and Hoyt departed from the more frequent perspective of addressing potential responses to retrenchment from the viewpoint of senior university administrators.

The rationale for Dallam and Hoyt's focus on faculty members' preferences with regard to retrenchment rests on a recognition that faculty members constitute the most important resource of a university. If some cutback measures are indeed inevitable, it is reasonable to minimize faculty members' loss of morale and security by taking their preferences into account. Dallam and Hoyt's position was that faculty members are to be included by administrators in their university's planning process to deal with retrenchment.

The methodology employed by Dallam and Hoyt consisted of a survey of a random stratified sample of 120 faculty members and department heads at Kansas State University in the fall of 1980. Their survey instrument took the form of a simulation exercise in which faculty members rated on a five-point scale various policy options for dealing with retrenchment, first within a university department and, secondly, on a university-wide basis.

Dallam and Hoyt (1983, pp. 410-411) categorized departmental responses to retrenchment in five categories: (1) "reductions in nontenured faculty"; (2) "reductions in tenured faculty"; (3) "reductions in support staff"' (4)"changes in policies related to faculty vacancies"; and (5) "reductions in operational funds." They categorized university-wide responses to retrenchment in three categories: (1) "reductions in noninstructional areas"; (2) "activities to increase enrollment and/or resources"; and (3) "alternative personnel policies."

Dallam and Hoyt (1983, pp. 412-414) found virtually no persistent significant differences between the preferences of faculty members and department heads. Within the scenario of a department, acceptable options included such actions as leaving vacated positions unfilled, reducing the number of graduate teaching assistantships, and reducing travel money. Unacceptable options included dismissing faculty members, whether tenured or untenured. On a university-wide basis, acceptable options included such actions as increasing extramural funding, increasing enrollment, reducing the number of administrative staff, reducing student services and encouraging faculty leaves without pay. Unacceptable options included not filling more than one-half of vacant positions and reducing library services and staff.

The most noteworthy of Dallam and Hoyt's findings with regard to the present study, however, concerns the relationship between decreasing enrollment and the preferred means of dealing with retrenchment. Dallam and Hoyt (1983, p. 416) found that faculty members in departments with falling enrollments were more likely to accept measures for dealing with retrenchment than were faculty members with stable or increasing enrollments.

Perceptions

Inherent in a micropolitical approach to the study of an organization is the possibility of confining attention to the interests of a select interest group. Such is the case in this research. In this investigation of financial constraint at universities faculty members constitute the focal group. Evidently, any complete depiction of the impact of financial constraint at universities and preferred measures for dealing with it would involve a consideration of the interests and perceptions of other pertinent contending groups, including members of boards of governors, administrators, students and non-academic personnel. Consequently, it must be acknowledged that insofar as this research examines the perceptions of the reality of financial constraint at universities from the vantage point of faculty members, this investigation deals with but one component, albeit significant, of a larger panorama.

Because this study deals with the perceptions of faculty members, it is appropriate to put forward some guidelines regarding the interpretation of perceptual data. These guidelines rely extensively on Johnson's (1987) recent treatment of perception, and on the implications he drew for educational researchers.

Johnson (1987, p. 218) set forth five generalizations regarding the nature of perceptual data which appear pertinent to this study. First of all, perceptions, whether they correspond to objectives reality or not, do exercise substantial influence on the attitudes and behavior of the perceiver. Second, perceptions can reasonably be considered as "approximations of reality." Closely related to the previous proposition is the notion that perceivers frequently experience difficulty in communicating their perceptions. This tendency holds true in a specially emphatic way for perceptions regarding "abstract organizational attributes" (p. 209). Fourth, "perceptions tend to develop as internally consistent and temporally stable structures." Lastly, a wide variety of social, cultural and personal factors influence the perceptions of social events.

The implications of these propositions for the interpretation of the data in this study follow straightforwardly. First, the perceptions of faculty members portrayed in this study do provide indications of the perspectives from which faculty approach the issue of financial constraint. Whether or not their perceptions regarding the impact of financial constraint are viewed as objective by other stakeholders, faculty are likely to act in accordance with their own perceptions. Second, despite some inevitable degree of inaccuracy, faculty members' perceptions of the impact of financial constraint can reasonably be considered as a surrogate measure of that impact. Faculty's perceptions deserve to be treated seriously (which does not preclude a challenge on adequate grounds). On no account, however, should their perceptions be summarily dismissed as illusory. Moreover, it is reasonable to anticipate that efforts will be required to clarify mistaken perceptions regarding the impact of financial constraint, because such perceptions involve dealing with complex and abstract institutional processes. Fourth, the configuration of faculty members' perceptions expressed in this study can be expected to reflect a fairly permanent collective state of mind. Finally, the factors which

plausibly influence faculty members' perceptions in this research are numerous. Several come to mind: institutional factors such as the university's mandate and financial situation prior to the onset of financial constraint; group factors such as the views of faculty members' peers; experiential factors such as prior experience with rigors and threats to professional activity imposed by financial constraint; reward factors such as the widespread expectation of continued growth and expansion of universities; and political factors such as the desire of faculty members to set their own agenda within the labyrinth of university governance.

I. SUMMARY

The purpose of this chapter was to review literature related to the topic of faculty and financial constraint at universities, and to identify conceptual bases for the study. The point of departure for this study lay in a consideration of the micropolitics of educational organizations. Universities, like all organizations, may be conceived as political arenas in which organizational participants contend for the satisfaction of their dissimilar interests. Accordingly, faculty members were assumed to constitute an interest group distinct from other identifiable groups having a stake in the resolution of financial constraint at universities -- boards of governors, administrators, students, and external interest groups such as business and government. This study's examination of faculty perceptions and preferences pertaining to the issue of financial constraint was conceived essentially as an articulation of the interests of faculty members.

In the literature relating to the micropolitics of organizations generally and to the micropolitics of education in particular, the interests of organizational participants and professional educators were conceived heuristically in a variety of ways. No generally accepted categorization of interests was to be found. Consequently, the matter of categorizing faculty interests was left to arise from the nature of the specific issue at hand, namely, that of financial constraint at universities.

Canadian universities in the 1980s are confronted by the end of the relatively affluent era of expansion which began in the 1950s. Whatever the reason, whether governments'

desire to reduce budgetary deficits or a shift in government priorities away from higher education, universities are being required to make do with less. An extended period of financial constraint at universities is certain to have significant repercussions on the universities' social functions -- teaching, research and public service.

Organizational decline and cutback management are relatively recent topics in the study of organizations. Concern with these topics is timely, however, in light of current trends toward resource scarcity, which run counter to the hitherto dominant assumption of uninterrupted growth. Organizational decline can be defined as organizational change in face of a scarcity of slack resources, and cutback management can be understood as managing organizational change toward lower levels of resource consumption and organizational acitivity. Organizational decline can also be viewed as a cutback in the size of an organization's work force, profits, budgets and clients. From an open systems perspective, organizational decline can be conceived as a change in the relationship of an organization to its external environment.

The topics of organizational decline and cutback management are of particular concern to institutions of higher education. American institutions of higher education recently experienced, and are experiencing in varying degrees, the conditions of organizational decline. These conditions of decline in the American situation typically take the form of retrenchment, a combination of financial constraint and enrollment decline. On the Canadian scene, however, a somewhat different set of circumstances prevail. In January, 1986, the time at which the survey of this study was conducted, the universities of Western Canada faced the challenge of financial constraint under conditions of stable or increasing enrollment.

A recurrent theme in the literature related to financial constraint at universities concerns the issue of possible institutional responses. Potential responses can be grouped into three broad categories: (1) cutbacks and reallocations; (2) program innovations and expansion; and (3) process measures. The first and third of these categories focus on institutional adaptations largely internal to the university, whereas the second centers on the university's external environment and on the opportunities it affords to gain additional

financial resources and public support.

Despite some notable differences in emphasis, the literature regarding organizational decline in organizations in general dovetails well with the literature pertaining to the management of financial constraint and enrollment decline at universities. Writers in the former body of literature deal with causes of organizational decline as well as general responses to the problem of organizational decline. Writers in the latter body of literature tend to direct their attention, in a prescriptive manner, to practical issues related to the development of adequate institutional responses. Both groups of writers approach organizational decline from an institutional viewpoint, that is, from the viewpoint of a senior executive or senior administrator.

Powell (1981) and Dallam and Hoyt (1983) provided precedents for approaching the matter of financial constraint at universities from the viewpoint of faculty members rather than senior administrators. Of particular relevance for this investigation was Powell's focus on faculty members' perceptions of the impact of financial constraint on their academic activities, and Dallam and Hoyt's findings that faculty members with falling enrollments in their departments were more likely to accept measures for dealing with retrenchment than were faculty members in departments with stable or increasing enrollments.

The conceptual bases for this study's examination of faculty members' interests pertaining to financial constraint at universities relied particularly on a combination of constructs from Powell's (1981), and Dallam and Hoyt's (1983) studies. Like both of these previous studies, this research approached the matter of financial constraint from the viewpoint of faculty members. From Powell it borrowed the construct of the perceived impact of financial constraint. From Dallam and Hoyt it took the construct of faculty preferences regarding measures for dealing with retrenchment.

Dallam and Hoyt (1983, pp. 416-417) found that faculty members in departments where enrollments were falling considered some measures for dealing with retrenchment more acceptable than did faculty members in departments where enrollments were stable or increasing. In other words, the acceptability of measures for dealing with retrenchment was

related to enrollment decline.

This inquiry adapted Dallam and Hoyt's finding to a situation of stable or increasing enrollment prevailing in Western Canadian universities in January of 1986. In the absence of enrollment decline, it was hypothesized that the acceptability of measures for dealing with financial constraint was related to the perceived impact of financial constraint. This hypothesis was supported by Levine's (1979, p. 181) account of the "tooth fairy syndrome," which describes the reluctance of organizational participants to accept any cutbacks in the early stages of contraction in the belief that the need for contraction would somehow disappear. The hypothesis offers the opportunity to identify a possible determinant of the acceptability to faculty members of measures for dealing with financial constraint in a situation not characterized by declining enrollments.

Despite a common attention to faculty members in the matter of financial constraint, however, there are noteworthy differences between this investigation and that of Powell's, and between this investigation and Dallam and Hoyt's. Whereas Powell's findings regarding the perceived impact of financial constraint on the professional activities of academics were based on interviews of only 73 respondents and were thus not widely generalizable, this study based its findings on a generalizable random sample survey. Whereas Powell's findings regarding the perceived impact of financial constraint included effects on the quality of instruction, research, career opportunities, institutional life, and the overall effect of financial constraint, this research extended the examination of the perceived impact of financial constraint to include perceptions of the seriousness of the problem of financial constraint, its relative permanence, and the impact of financial constraint on morale, socio-economic status, voluntary service activities, and contract work.

Unlike Dallam and Hoyt's work, this exploration did not engage in a simulation exercise in order to investigate the preferences of faculty members. Rather, this inquiry surveyed the preferences of faculty directly. Whereas Dallam and Hoyt's work examined the preferences of faculty at only one university, this exploration surveyed the preferences of faculty at 11 universities. Moreover, whereas Dallam and Hoyt's study examined the

preferences of faculty at only one American state, this investigation surveyed the preferences of faculty members in four Canadian provinces. Furthermore, this research afforded the opportunity to replicate Dallam and Hoyt's findings regarding the minimal association of faculty members' demographic characteristics and their preferences for dealing with retrenchment measures on an extended data base. In short, this research combined the constructs of the perceived impact of financial constraint and faculty members' preferences for measures for dealing with financial constraint to articulate faculty members' interests in the issue of financial constraint at universities.

Lastly, a final assumption underlying this investigation is made explicit; namely, that it focuses exclusively on faculty members' perceptions of the reality of financial constraint. A more comprehensive depiction of financial constraint at universities would take into account as well the perceptions of other concerned groups such as members of boards of governors, administrators, students, and non-academic personnel.

Analytical Framework for the Study

Figure 2.1 presents an elaboration of the analytical framework which is utilized in this study. This figure constitutes a detailed expansion of Figure 1.1.

Demographic characteristics are operationalized in the following categories: discipline area, academic rank, academic degree, tenure status, administrative position, university, membership in faculty association/union, age, and sex.

Four sets of categories are employed for the assessment of the perceived impact of financial constraint. One set refers to the significance and anticipated permanence of financial constraint. A second set of categories relates to the three widely recognized aspects of academic activity, namely, teaching, research, and public service. A third group of categories probes the global effects of financial constraint on the university, while a fourth group focuses on the human relations categories of morale, socio-economic status, and career aspirations.

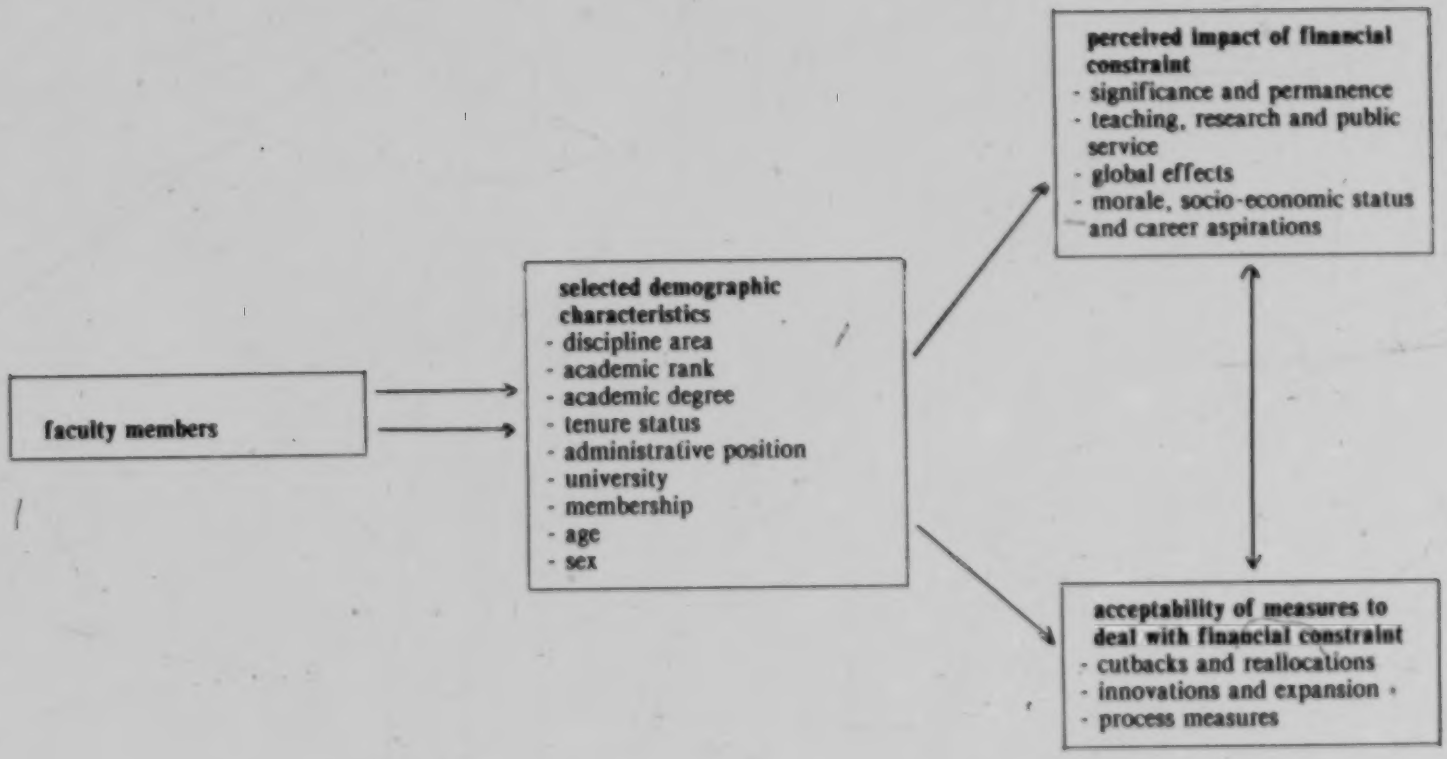

Figure 2.1

Analytical Framework for the Study

The acceptability of measures to deal with financial constraint contains options under the categories of cutbacks and allocations, program innovations and expansion, and process measures.

Chapter III

DESIGN AND METHODOLOGY

This chapter presents details of this study's design and methodology, as well as reporting the rate of return under various demographic categories, and a profile of the respondents.

A. STUDY DESIGN

This section of the chapter describes features of this study's design and methodology.

Characterization of the Study

The design is, first of all, characterized as survey research. Data for the study were collected by means of a survey questionnaire constructed specifically for this study (Appendix A). Second, the study is descriptive in that it provides an account of faculty members' perceptions and preferences. The study design is not prescriptive; no best ways of dealing with financial constraint at universities were posited. Third, the study is characterized as hypothesis-testing insofar as it tested the following general hypotheses: (1) that faculty members' perceptions of the effects of financial constraint vary by selected demographic characteristics; (2) that faculty members' preferences in principle for measures for dealing with financial constraint vary by selected demographic characteristics; and (3) that faculty members' perceptions of the effects of financial constraint are related to their views on the acceptability in principle of measures for dealing with financial constraint.

Data Collection

The questionnaire for this study consisted of four parts. Part I contained 11 questions pertaining to selected demographic characteristics. These characteristics were as follows: discipline area, academic rank, highest academic degree held, tenure status, employment status (continuing or sessional), nature of appointment (full-time or part-time),

administrative position (if any) in the university, university, membership in faculty association/union, age, and sex.

Part II of the questionnaire consisted of 21 statements pertaining to the perceived impact of financial constraint at the respondents' respective universities. Part II was divided into three sections. Section A consisted of four statements regarding the significance and permanence of financial constraint at the respondents' respective universities. A five-point scale was used ranging from "strongly disagree" to "strongly agree."

Section B consisted of 11 statements pertaining to the impact of financial constraint on various aspects of the respondents' activities at their respective universities, namely, quality of instruction, morale, socio-economic status, and achievement of career aspirations. Section B also included three statements regarding the global impact of financial constraint at their respective universities. In this section, the five-point scale ranged from "very negative" to "very positive."

Section C consisted of six statements pertaining to the impact of financial constraint on various aspects of the respondents' activities at their respective universities, namely, research productivity, voluntary service activities, and contract work. The five-point scale employed here ranged from "decrease greatly" to "increase greatly."

A particular feature of Part II consisted of eight pairs of parallel statements, which make possible a comparison of faculty members' perceptions of the impact of financial constraint upon themselves individually and upon faculty members generally.

Part III consisted of 68 statements regarding various measures for dealing with financial constraint. Here, the five-point scale ranged from "very unacceptable" to "very acceptable." Respondents were asked to circle one number indicating the extent to which they found the given means of dealing with financial constraint acceptable in principle.

Lastly, Part IV provided an opportunity to the respondents to make any comments they wished regarding financial constraint.

Administration of the Questionnaire

A total of 936 questionnaires were distributed by mail on January 10, 1986. Each questionnaire was accompanied by a business reply envelope for return of the completed questionnaire.

Each questionnaire was also accompanied by two covering letters. The first letter, signed by the researcher's supervisor, pointed out the academic intent of the study and encouraged potential respondents to answer the questionnaire. The second letter, signed by the researcher, explained the purpose of the questionnaire and briefly outlined its format. Both letters contained assurances that responses to the questionnaire would be handled anonymously. Copies of the covering letters can be found in Appendix B.

On February 3, 1986, a follow-up letter was sent to all potential respondents. It both thanked those respondents who had already completed and returned the questionnaire, and encouraged non-respondents to complete and return the questionnaire. April 4, 1986 was the cutoff date, after which time coding and analysis of the returns were begun. A copy of the follow-up letter can be found in Appendix C.

Sample

The population for this survey consisted of all (approximately 10,000) full-time professors at 11 universities: Brandon University, Simon Fraser University, the University of Alberta, the University of British Columbia, the University of Calgary, the University of Lethbridge, the University of Manitoba, the University of Regina, the University of Saskatchewan, the University of Victoria, and the University of Winnipeg. A 10% random sample of full-time faculty members, stratified by university, was drawn from *The Commonwealth Universities Yearbook, Volume 2* (1985).

Pilot - testing of the Questionnaire

An earlier version of the questionnaire administered in this study was pilot-tested. The pilot-testing was conducted with 12 professors and administrators at the University of

Alberta who did not constitute part of the sample selected for administration of the questionnaire.

Some modifications were made to the questionnaire as a result of the pilot-testing. The ordering of items in Part II and in Part III respectively was revised in order to facilitate ease of response. Scales in Part II were changed from a four- to a five-point scale and so made uniform with the five-point scale of Part III. Clarity of expression was improved in light of suggestions offered. Finally, the number of items in the questionnaire was reduced from 101 to 100. The average time required to complete the questionnaire in this pilot-test was just under 30 minutes.

Reliability and Validity

The reliability of the survey instrument was examined by means of Cronbach Alpha coefficients (Table 3.1). Despite the relatively low coefficients for Part II-A (0.31) and Part II-C (0.63), the coefficients for Part II in total (0.75) and Part III (0.85) indicate that the instrument exhibited reasonable reliability in this study as a measure of the perceived impact of financial constraint at universities and as a measure of the acceptability in principle of measures for dealing with financial constraint.

Content validity was established through the pilot test, at which time respondents were told the purpose of the instrument and asked to question any item and suggest additions.

With regard to the treatment of qualitative data, the classifications are those of the author exclusively

Data Analysis

Statistical data collected in this study were analyzed by means of the programs in the *Statistical Package for the Social Sciences* (Nie, Hull, Jenkins, Steinbrenner and Bent, 1975) A variety of statistical procedures was used. To begin with, means and standard deviations were calculated to address the research question regarding faculty perceptions of the impact of financial constraint. For questions pertaining to the identification of group differences,

Table 3.1

Cronbach Alpha Reliability Coefficients of the Survey Instrument

Part of the Instrument	Alpha
Part II - in total	0.75
Part II-A	0.31
Part II-B	0.86
Part II-C	0.63
Part III	0.85

one-way analysis of variance and *t* tests were used.

Means and standard deviations were also calculated to answer the research question regarding the acceptability in principle of measures for dealing with financial constraint. Before group differences were explored, an orthogonal (varimax) factor analysis was performed for the purpose of identifying generic factors. This made possible the reduction of the 68 items dealing with financial constraint into 10 factors. Factor scores based on these 10 factors were subsequently used to calculate group differences by means of one-way analysis of variance and *t* tests.

Factor scores were further used to calculate Pearson correlations in response to the research question regarding the relation between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint. Factor scores were also used in a multiple regression analysis of this relationship.

With regard to qualitative data, the open-ended comments in the returned questionnaires were subjected to content analysis. Three sources of the open-ended comments can be distinguished. Most of the comments were written in response to the invitation in Part IV of the questionnaire, which asked respondents to comment on financial constraint at their universities. Additional comments were written in response to the invitation in Part II of the questionnaire, which simply asked for comments in the space provided. Still other unsolicited comments were written in the margins of the returned questionnaires. For the purpose of the content analysis, comments from all three sources were treated identically.

The open-ended comments were initially transferred from the completed questionnaires to file cards. Subsequently the comments were classified by category and compiled under the appropriate heading. The categories used in the content analysis arose substantially from the questionnaire. Categories concerning the perceived impact of financial constraint were derived from the paired items in Part II of the questionnaire, whereas categories concerning the acceptability of measures for dealing with financial constraint were based on the factor analysis of items in Part III of the questionnaire. Part II thus yielded 10 categories, and Part III, 10.

It is important to note that the selected comments which are reported illustrate the range of opinion found in the sample. The comments cannot be generalized to the entire sample of respondents, and therefore cannot be considered representative of the population of interest with regard to the perceived impact of financial constraint and with regard to the acceptability of measures for dealing with financial constraint. Only 55% of the 457 respondents to the questionnaire provided written comments, some brief, others extended.

B. RATE OF RETURN

Of a total of 936 mailed questionnaires, 457 were returned and found usable for an overall return rate of 48.8%. By university, the rate of return varied from a low of 36.7% at the University of Manitoba to a high of 63.3% at the University of Victoria. Table 3.2 reports the rate of return for each university. By province, the rate of return was highest in British Columbia with 53.0%, and lowest in Manitoba with 39.3%. Table 3.3 reports the rate for return for each province. By size of university, the rate of return was highest for "medium-sized universities" at 52.0%. Table 3.4 reports the the rates of return for "large," "medium-sized" and "small universities." (In this classification, the number of potential respondents at each university was used as a proxy for the respective university's size.)

The extent to which the sample was representative of the population is illustrated in Tables 3.2, 3.3 and 3.4. In each of these tables, the chi-square value was not statistically significant at the .05 level. Thus, the sample was not significantly different from the population with regard to distribution by university, province, or size of university.

C. PROFILE OF THE RESPONDENTS

Tables 3.5 to 3.11 provide details of the respondents characteristics. By discipline area, science comprised the largest single component of the sample, followed by social science, medicine, humanities and education. The remaining respondents were distributed among 17 other disciplines. Table 3.5 reports the frequency and percentage frequency distributions of

Table 3.2

Rate of Return Classified by University

University	Mailed	Returned	% Returned
Brandon	19	8	42.1
Simon Fraser	53	26	49.1
Alberta	168	83	49.4
British Columbia	202	104	51.5
Calgary	117	62	53.0
Lethbridge	21	9	42.9
Manitoba	139	51	36.7
Regina	39	18	46.2
Saskatchewan	109	54	49.5
Victoria	49	31	63.3
Winnipeg	20	11	55.0
TOTALS	936	457	48.8

Chi-square = 10.40
Degrees of Freedom = 10
$p > .05$

Table 3.3

Rate of Return Classified by Province

Province	Mailed	Returned	% Returned
British Columbia	304	161	53.0
Alberta	306	154	50.3
Saskatchewan	148	72	48.6
Manitoba	178	70	39.3
TOTALS	936	457	48.8

Chi-square = 3.15
Degrees of Freedom = 3
$p > .05$

Table 3.4

Rate of Return Classified by Size of University

Size of University	Mailed	Returned	% Returned
Large	509	238	46.8
Medium	367	191	52.0
Small	60	28	46.7
TOTALS	936	457	48.8

Large = University of Alberta, University of British Columbia, University of Manitoba
Medium = Simon Fraser University, University of Calgary, University of Regina, University of Saskatchewan, University of Victoria
Small = Brandon University, University of Lethbridge, University of Winnipeg

Chi-square = 0.86
Degrees of Freedom = 2
$p > .05$

Table 3.5

Frequency and Percentage Frequency Distributions of Respondents Classified by Discipline Area

Discipline Area	*f*	%*f*
Agriculture/Forestry	15	3.3
Architecture	1	0.2
Business/Commerce	18	3.9
Dentistry	3	0.7
Education	57	12.5
Engineering	21	4.6
Fine Arts	19	4.2
Home Economics	5	1.1
Humanities	61	13.3
Journalism	1	0.2
Law	7	1.5
Library Science	1	0.2
Medicine	64	14.0
Nursing	16	3.5
Pharmacy	4	0.9
Physical Education	7	1.5
Recreation	1	0.2
Rehabilitation Medicine	3	0.7
Social Science	65	14.2
Science	84	18.4
Veterinary Medicine	4	0.9
Physical Education	7	1.5
TOTALS	457	100.0

respondents by discipline area.

By academic rank, 44.9% of the respondents reported themselves as full professors, and 34.1% reported themselves as associate professors. Table 3.6 reports the frequency and percentage frequency distributions of respondents by academic rank.

By highest academic degree, 81.8% of the respondents identified themselves as holding a doctorate, while 15.1% identified themselves as holding a master's degree. Table 3.7 reports the frequency and percentage frequency distributions of respondents by highest academic degree.

Of the 457 respondents, 381 (83.4%) reported themselves as tenured, while 76 (16.6%) reported themselves as non-tenured. Of the 457 respondents, 454 (99.3%) reported their employment status as continuing while 3 (0.7%) reported their employment status as sessional. Of the 457 respondents, 451 (98.7%) reported their appointments as full-time, while 6 (1.3%) reported their appointments as part-time.

Of the 457 respondents, 334 (73.1%) indicated that they did not currently hold an administrative position. Table 3.8 reports the frequency and percentage frequency distributions of respondents by administrative status.

Table 3.9 reports the frequency and percentage frequency distributions of respondents by university. Of the 457 respondents, 22.8% were from the University of British Columbia, and 18.2% were from the University of Alberta.

Of the 457 respondents, 161 (35.2%) were from British Columbia, 154 (33.7%) were from Alberta, 72 (15.8%) were from Saskatchewan, and 70 (15.3%) were from Manitoba.

Of the 457 respondents, 52.1% were from "large universities," and 6.1% from "small universities." (In this classification, the number of potential respondents at each university was used as a proxy for the respective university's size.) Table 3.10 reports the frequency and percentage frequency distributions of respondents by size of university.

Of the 455 respondents to question 9 concerning membership in the faculty association/union of their respective universities, 400 (87.9%) indicated that they were members, while 55 (12.1%) indicated that they were not members.

Table 3.6

Frequency and Percentage Frequency Distributions of Respondents Classified by Academic Rank

Academic Rank	*f*	%*f*
Full Professor	205	44.9
Associate Professor	156	34.1
Assistant Professor	84	18.4
Lecturer	8	1.8
Other	4	0.9
TOTALS	457	100.0

Table 3.7

Frequency and Percentage Frequency Distributions of Respondents Classified by Highest Academic Degree

Highest Academic Degree	*f*	%*f*
Doctorate	374	81.8
Master's	69	15.1
Bachelor's	12	2.6
Other	2	0.4
TOTALS	457	100.0

Table 3.8

Frequency and Percentage Frequency Distributions of Respondents Classified by Administrative Position

Administrative Position	*f*	%*f*
No	334	73.1
Yes (position unspecified)	6	1.3
Vice-presidents	3	0.7
Deans	24	5.3
Chairmen and Directors	90	19.7
TOTALS	457	100.0

Table 3.9

Frequency and Percentage Frequency Distributions of Respondents Classified by University

University	*f*	%*f*
Brandon	8	1.8
Simon Fraser	26	5.7
Alberta	83	18.2
British Columbia	104	22.8
Calgary	62	13.6
Lethbridge	9	2.0
Manitoba	51	11.2
Regina	18	3.9
Saskatchewan	54	11.8
Victoria	31	6.8
Winnipeg	11	2.4
TOTALS	457	100.0

Table 3.10

Frequency and Percentage Frequency Distributions of Respondents Classified by Size of University

Size of University	*f*	%*f*
Large	238	52.1
Medium	191	41.8
Small	28	6.1
TOTALS	457	100.0

Large = University of Alberta, University of British Columbia, University of Manitoba
Medium = Simon Fraser University, University of Calgary, University of Regina, University of Saskatchewan, University of Victoria
Small = Brandon University, University of Lethbridge, University of Winnipeg

Of the 456 respondents to question 10 concerning their respective ages, 44.3% indicated that they were from 40 to 49 years of age. Table 3.11 displays the frequency and percentage frequency distributions of respondents by age. Of the 457 respondents, 88 (19.3%) identified themselves as female, while 369 (80.7%) identified themselves as male.

D. SUMMARY

The study's design was that of survey research. Data were collected by means of a specially designed four-part questionnaire, which was pilot-tested and then administered in January of 1986 to a 10% random stratified sample, drawn from a population of approximately 10,000 full-time faculty members at 11 universities in Western Canada. Four hundred fifty-seven usable questionnaires were returned for an overall return rate of 48.8%. The sample was representative of the population with regard to distribution by university, province, and size of university. Quantitative data were analyzed through a variety of statistical procedures including calculation of means and standard deviations, as well as *t* tests, one-way analysis of variance, factor analysis, Pearson correlation coefficients and multiple regression analysis. Open-ended comments were subjected to content analysis.

Table 3.11

Frequency and Percentage Frequency Distributions
of Respondents Classified by Age

Age	*f*	%*f*
Under 30 years	3	0.7
30 - 39 years	92	20.2
40 - 49 years	202	44.3
50 - 59 years	121	26.5
60 and over	38	8.3
TOTALS	456	100.0

Chapter IV

QUANTITATIVE FINDINGS

This chapter reports statistical findings related to the study's five research questions.

A. THE PERCEIVED IMPACT OF FINANCIAL CONSTRAINT

On the five-point scale on which 1 = "strongly disagree" and 5 = "strongly agree," item 12 scored the highest mean at 4.46. Items 13 and 14 also recorded means in excess of 4.00. Item 15, an item paired with item 14 as a natural converse, registered a mean of 2.25. On the five-point scale on which 1= "very negative" and 5 = "very positive," item 18 scored the lowest mean at 1.83, whereas item 24 recorded a maximum mean of 2.49, and the remaining items (16, 17, 19, 20, 21, 22, 23, 25, 26) ranged between these extremes. Finally, on the five-point scale on which 1 = "decrease greatly" and 5 = "increase greatly," item 27 had the low mean of 2.15, and item 31 recorded a high mean of 3.39.

Table 4.1 recapitulates how respondents perceived the impact of financial constraint at their respective universities. Respondents considered financial constraint as a significant problem at their universities, a problem that would probably last for at least another three years. Respondents did not agree with the statement that government would probably increase the funding of their universities in real terms next year. Respondents perceived that the impact of financial constraint on the quality of instruction at their universities was negative, as was its impact on their morale, their socio-economic status and the achievement of their career aspirations. Globally, respondents viewed that the impact of financial constraint at their universities as negative. Moreover, respondents perceived that the impact of financial constraint was to decrease research productivity at their universities, to decrease their voluntary service activities, and to increase their contract work.

Table 4.1

Faculty Perceptions of Financial Constraint

Item	Mean	*SD*	*N*
Section A			
12. Faculty generally perceive financial constraint at my university as a significant problem.	4.46	0.74	455
13. I view financial constraint at my university as a significant problem.	4.38	0.85	455
14. The situation of financial constraint at my university will probably last for at least another three years.	4.28	0.81	453
15. The government will probably increase the funding of my university in real terms next year.	2.25	0.98	457
Section B			
16. The impact of financial constraint on the quality of instruction at my university is generally _____.	2.02	0.72	457
17. The impact of financial constraint at my university on the quality of instruction I am able to provide is _____.	2.36	0.69	454

Continued

Table 4.1: Faculty Perceptions of Financial Constraint (Continued)

Item	Mean	*SD*	*N*
18. The impact of financial constraint on faculty morale at my university is generally_____.	1.83	0.68	457
19. The impact of financial constraint at my university on my morale is _____.	2.16	0.80	456
20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____.	2.15	0.74	455
21. The impact of financial constraint at my university on my socio-economic status is _____.	2.26	0.77	456
22. The impact of financial constraint on the achievement of faculty career aspirations at my university is generally _____.	2.22	0.73	452
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	2.45	0.73	451
24. The impact of financial constraint on the efficient use of resources at my university is generally _____.	2.49	0.99	455
25. The impact of financial constraint on the overall effectiveness of academic staff at my university is generally _____.	2.23	0.76	455
26. The impact of financial constraint on the reconsideration of priorities at my university is generally _____.	2.53	1.09	453

Continued

Table 4.1: Faculty Perceptions of Financial Constraint (Continued)

	Item	Mean	*SD*	*N*
	Section C			
27.	The impact of financial constraint is generally to _____ research productivity at my university.	2.15	0.70	456
28.	The impact of financial constraint is generally to _____ my research productivity.	2.36	0.71	455
29.	The impact of financial constraint is generally to _____ voluntary service activities (e.g., committee service, community service) at my university.	2.45	0.79	452
30.	The impact of financial constraint at my university is to _____ my voluntary service activities (e.g. committee service, community service).	2.63	0.79	453
31.	The impact of financial constraint is generally to _____ contract work (e.g., outside consulting) at my university.	3.39	0.72	448
32.	The impact of financial constraint at my university is to _____ my contract work (e.g., outside consulting).	3.20	0.66	442

In Section A, the scale is as follows: 1 = strongly disagree; 2 = disagree; 3 = neutral/uncertain; 4 = agree; 5 = strongly agree.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

In Section C, the scale is as follows: 1 = decrease greatly; 2 = decrease; 3 = neutral/uncertain; 4 = increase; 5 = increase greatly.

B. GROUP DIFFERENCES IN PERCEPTIONS OF FINANCIAL CONSTRAINT

This section presents findings related to group differences in the perceived impact of financial constraint.

Responses by Discipline Area

Nine categories were created to analyze responses by discipline area: (1) health sciences -- including responses from medicine, dentistry, nursing, rehabilitation medicine and pharmacy; (2) agriculture -- including agriculture/forestry and veterinary medicine; (3) business; (4) education -- including education and physical education; (5) engineering; (6) social science; (7) science; (8) fine arts and (9) humanities. Others were omitted from the analysis (namely, architecture, home economics, law and recreation), since their numbers were too low to be included in an analysis of variance procedure.

Table 4.2 reports the significant differences identified in the one-way analysis of variance of the perceived impact of financial constraint classified by discipline area. The level of significance was set at the .05 level for the analysis of variance, and the level of significance was set at the .10 level for the Scheffé procedure to identify distinct pairs of means.

Of the 21 variables measuring the perceived impact of financial constraint, two variables were identified as having significant differences. Respondents from humanities reported a significantly more negative impact on the efficient use of resources at their universities then did respondents from health sciences. Respondents from business/commerce reported a significantly greater increase of contract work individually than respondents from science. On the remaining 19 of the 21 variables no significant differences were identified. Generally, then, the perceived impact of financial constraint varied little by discipline area.

Responses by Academic Rank

Table 4.3 reports the significant differences identified in the one-way analysis of variance of the perceived impact of financial constraint classified by academic rank. Data

Table 4.2

One-way Analysis of Variance of the Perceived Impact of Financial Constraint Classified by Discipline Area

Section B

Item 24. The impact of financial constraint on the efficient use of resources at my university is generally _____.

	Discipline Area	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Health Sciences	89	2.78	0.97	2.77*	1>9
2.	Agriculture	19	2.42	1.02		
3.	Business	18	2.56	0.98		
4.	Education	64	2.38	0.88		
5.	Engineering	21	2.67	1.02		
6.	Social Sciences	65	2.49	1.11		
7.	Science	84	2.51	1.02		
8.	Fine Arts	19	2.16	0.90		
9.	Humanities	60	2.08	0.79		

Continued

Table 4.2 (Continued)

Section C

Item 32. The impact of financial constraint at my university is to _____ my contract work (e.g. outside consulting).

Discipline Area	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1. Health Sciences	86	3.34	0.52	4.17*	3>7
2. Agriculture	19	3.47	0.84		
3. Business	18	3.61	0.61		
4. Education	62	3.15	0.74		
5. Engineering	21	3.48	0.75		
6. Social Sciences	65	3.25	0.61		
7. Science	81	2.99	0.62		
8. Fine Arts	19	3.16	0.90		
9. Humanities	56	3.02	0.49		

* Significant at .05 level.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

In Section C, the scale is as follows: 1 = decrease greatly; 2 = decrease; 3 = neutral/uncertain; 4 = increase; 5 = increase greatly.

Table 4.3

One-way Analysis of Variance of the Perceived Impact of Financial Constraint Classified by Academic Rank

Item	1 Full Prof (N=205) Mean	*SD*	2 Assoc Prof (N=156) Mean	*SD*	3 Assist Prof (N=84) Mean	*SD*	*F* Ratio	Intergroup Differences
Section B								
19. The impact of financial constraint at my university on my morale is _____.	2.27	0.76	2.12	0.82	1.96	0.77	5.08*	1>3
20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____.	2.21	0.71	2.14	0.72	1.96	0.74	3.32*	1>3
21. The impact of financial constraint at my university on my socio-economic status is _____.	2.38	0.72	2.26	0.76	1.99	0.80	8.18*	1>3, 2>3
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	2.61	0.67	2.35	0.75	2.26	0.70	9.52*	1>3, 1>2
25. The impact of financial constraint on the overall effectiveness of academic staff at my university is generally _____.	2.34	0.76	2.15	0.75	2.17	0.71	3.09*	1>3

* Significant at .05 level.
*N*s reported are maximums.
In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

from the categories "lecturer" and "other" were omitted since their numbers were too low to be included in an analysis of variance procedure.

Of the 21 variables measuring the perceived impact of financial constraint, five variables were identified as having significant differences. Assistant professors reported significantly lower morale for themselves in comparison with full professors. Assistant professors reported a significantly more negative impact on the socio-economic status of faculty generally than did full professors. Assistant professors reported a significantly more negative impact on their individual socio-economic status than did full professors and associate professors. Both assistant and associate professors reported a significantly more negative impact on the achievement of their individual career aspirations than did full professors. Assistant professors reported a significantly more negative impact on the overall effectiveness of academic staff at their universities than did full professors. On the remaining 16 of the 21 variables, no statistically significant differences were identified. The perceived impact of financial constraint thus varied somewhat by academic rank, and such differences as were found reflected a greater negative impact on assistant professors compared to full professors.

Responses by Highest Academic Degree

Table 4.4 reports the significant differences identified in *t* tests of the perceived impact of financial constraint classified by highest academic degree. Data from the categories "bachelor's" and "other" were grouped together with respondents from the category "master's" to form a category, "non-doctorate," with numbers sufficient to perform *t* tests.

Of the 21 variables measuring the perceived impact of financial constraint, three variables were identified as having significantly differences. Respondents with a doctorate reported a significantly more negative impact on the quality of instruction they were able to provide, on faculty morale generally, and on their individual morale than did non-doctorate respondents. On the remaining 18 of the 21 variables, no significant differences were identified. Generally, then, the perceived impact of financial constraint varied little by

Table 4.4

T Tests of the Perceived Impact of Financial Constraint Classified by Highest Academic Degree

Item	Doctorate (*N*=374) Mean	*SD*	Non-Doctorate (*N*=83) Mean	*SD*	*t* value
Section B					
17. The impact of financial constraint at my university on the quality of instruction I am able to provide is _____.	2.31	0.70	2.59	0.63	3.41*
18. The impact of financial constraint on faculty morale at my university is generally _____.	1.80	0.67	1.98	0.70	2.12*
19. The impact of financial constraint at my university on my morale is _____.	2.10	0.81	2.39	0.71	2.93*

* Significant at .05 level.
*N*s reported are maximums.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

highest academic degree.

Responses by Tenure Status

Table 4.5 reports the significant difference identified in *t* tests of the perceived impact of financial constraint classified by tenure status. Of the 21 variables measuring the perceived impact of financial constraint, only one variable was identified as having a significant difference. Non-tenured respondents reported a significantly more negative impact on the achievement of their individual career aspirations than did tenured respondents. On the remaining 20 of the 21 variables, no significant differences were identified. Generally, then, the perceived impact of financial constraint varied little by tenure status.

Responses by Administrative Status

Table 4.6 reports the significant differences identified in *t* tests of the perceived impact of financial constraint classified by administrative status. Of the 21 variables measuring the perceived impact of financial constraint, two variables were identified as having significant differences. Respondents with no administrative status reported significantly more negative impact on the achievement of their individual career aspirations than did respondents with administrative status. Respondents with no administrative status reported significantly more decrease in their voluntary service activities than did respondents with administrative status. On the remaining 19 of the 21 variables, no significant differences were identified. Generally, then, the perceived impact of financial constraint varied little by administrative status. The second finding here might be explained as the consequence of increased teaching load for non-administrators.

Responses by University

Table 4.7 reports the significant differences identified in the one-way analysis of variance of the perceived impact of financial constraint classified by university. Data from Brandon University, the University of Lethbridge and the University of Winnipeg were

Table 4.5

***T* Test of the Perceived Impact of Financial Constraint Classified by Tenure Status**

Item	Tenured ($N=380$) Mean	*SD*	Non-Tenured ($N=76$) Mean	*SD*	*t* value
Section B					
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	2.49	0.72	2.25	0.77	2.61*

* Significant at .05 level.
*N*s reported are maximums.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

Table 4.6

***T* Tests of the Perceived Impact of Financial Constraint Classified by Administrative Status**

Item	Administrative Status (N=123) Mean	*SD*	No Administrative Status (N=334) Mean	*SD*	*t* value
Section B					
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	2.58	0.63	2.40	0.76	2.60*
Section C					
30. The impact of financial constraint at my university is to _____ my voluntary service activities (e.g., committee service, community service).	2.76	0.71	2.58	0.82	2.17*

* Significant at .05 level.
*N*s reported are maximums.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

In Section C, the scale is as follows: 1 = decrease greatly; 2 = decrease; 3 = neutral/uncertain; 4 = increase; 5 = increase greatly.

Table 4.7

One-way Analysis of Variance of the Perceived Impact of Financial Constraint Classified by University

Section A

Item 12. Faculty generally perceive financial constraint at my university as a significant problem.

	University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Simon Fraser University	26	4.65	0.56	7.79*	3>2, 1>2, 3>4
2.	University of Alberta	83	4.06	0.80		
3.	University of British Columbia	104	4.81	0.62		
4.	University of Calgary	61	4.36	0.71		
5.	University of Manitoba	50	4.38	0.73		
6.	University of Regina	18	4.44	0.70		
7.	University of Saskatchewan	54	4.44	0.57		
8.	University of Victoria	31	4.52	1.03		

Continued

Table 4.7 (Continued)

Item 13. I view financial constraint at my university as a significant problem.

University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1. Simon Fraser University	26	4.58	0.86	4.48*	3>2, 3>4
2. University of Alberta	83	4.05	0.90		
3. University of British Columbia	104	4.68	0.73		
4. University of Calgary	61	4.21	0.88		
5. University of Manitoba	50	4.36	0.85		
6. University of Regina	18	4.33	0.69		
7. University of Saskatchewan	54	4.35	0.65		
8. University of Victoria	31	4.39	1.09		

Continued

Table 4.7 (Continued)

Section B

Item 18. The impact of financial constraint on faculty morale at my university is generally _____.

University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1. Simon Fraser University	26	1.96	0.87	12.54*	2>3, 6>3, 1>3,
2. University of Alberta	83	2.14	0.65		5>3, 8>3, 7>3,
3. University of British Columbia	104	1.35	0.59		4>3
4. University of Calgary	62	1.85	0.54		
5. University of Manitoba	51	1.96	0.53		
6. University of Regina	18	2.00	0.69		
7. University of Saskatchewan	54	1.89	0.50		
8. University of Victoria	31	1.94	0.93		

Continued

Table 4.7 (Continued)

Item 19. The impact of financial constraint at my university on my morale is _____.

	University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Simon Fraser University	26	2.15	1.05	7.86*	2>3, 5>3, 4>3
2.	University of Alberta	83	2.51	0.76		
3.	University of British Columbia	104	1.73	0.75		
4.	University of Calgary	62	2.23	0.69		
5.	University of Manitoba	51	2.33	0.71		
6.	University of Regina	18	2.28	0.57		
7.	University of Saskatchewan	53	2.15	0.66		
8.	University of Victoria	31	2.19	0.87		

Continued

Table 4.7 (Continued)

Item 20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____.

	University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Simon Fraser University	25	1.72	0.74	10.35*	5>1, 7>1, 4>1,
2.	University of Alberta	83	2.28	0.77		2>1, 5>3, 7>3,
3.	University of British Columbia	104	1.75	0.69		6>3, 4>3, 2>3
4.	University of Calgary	61	2.31	0.65		
5.	University of Manitoba	51	2.47	0.54		
6.	University of Regina	18	2.39	0.50		
7.	University of Saskatchewan	54	2.39	0.63		
8.	University of Victoria	31	1.94	0.93		

Continued

Table 4.7 (Continued)

Item 21. The impact of financial constraint at my university on my socio-economic status is _____.

	University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Simon Fraser University	26	1.81	0.69	10.92*	4>1, 7>1, 5>1
2.	University of Alberta	82	2.38	0.81		2>1, 4>3, 6>3,
3.	University of British Columbia	104	1.82	0.69		7>3, 5>3, 2>3
4.	University of Calgary	62	2.56	0.56		
5.	University of Manitoba	51	2.47	0.70		
6.	University of Regina	18	2.50	0.51		
7.	University of Saskatchewan	54	2.48	0.67		
8.	University of Victoria	31	2.16	0.93		

Continued

Table 4.7 (Continued)

Item 22. The impact of financial constraint on the achievement of faculty career aspirations at my university is generally _____.

	University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Simon Fraser University	25	2.12	0.88	2.54*	2>3
2.	University of Alberta	82	2.48	0.74		
3.	University of British Columbia	103	2.08	0.75		
4.	University of Calgary	62	2.23	0.73		
5.	University of Manitoba	51	2.16	0.64		
6.	University of Regina	18	2.33	0.59		
7.	University of Saskatchewan	52	2.08	0.62		
8.	University of Victoria	31	2.26	0.73		

Continued

Table 4.7 (Continued)

Item 23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.

University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1. Simon Fraser University	26	2.35	0.85	3.30*	2>3
2. University of Alberta	81	2.62	0.62		
3. University of British Columbia	103	2.22	0.80		
4. University of Calgary	62	2.56	0.62		
5. University of Manitoba	50	2.38	0.78		
6. University of Regina	18	2.72	0.46		
7. University of Saskatchewan	52	2.35	0.79		
8. University of Victoria	31	2.65	0.61		

Continued

Table 4.7 (Continued)

Item 25. The impact of financial constraint on the overall effectiveness of academic staff at my university is ——|——.

	University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Simon Fraser University	25	2.12	0.88	2.64*	2>3
2.	University of Alberta	83	2.51	0.79		
3.	University of British Columbia	103	2.06	0.70		
4.	University of Calgary	62	2.24	0.72		
5.	University of Manitoba	51	2.24	0.74		
6.	University of Regina	18	2.06	0.64		
7.	University of Saskatchewan	54	2.20	0.76		
8.	University of Victoria	31	2.23	0.76		

* Significant at .05 level. Scheffé procedure identified distinctive pairs at .10 level.

In Section A, the scale is as follows: 1 = strongly disagree; 2 = disagree; 3 = neutral/uncertain; 4 = agree; 5 = strongly disagree.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

omitted since their numbers were too low to be included in an analysis of variance procedure. Of the 21 variables measuring the perceived impact of financial constraint, nine variables were identified as having significant differences.

Respondents from the University of British Columbia and from Simon Fraser University agreed more strongly than respondents from the University of Alberta that faculty generally viewed financial constraint as a significant problem. Respondents from the University of British Columbia agreed more strongly than respondents from the University of Calgary that faculty generally viewed financial constraint as a significant problem.

Respondents from the University of British Columbia agreed more strongly than did respondents from the University of Alberta and the University of Calgary that they individually viewed financial constraint as a significant problem at their respective universities.

Respondents from the University of British Columbia reported a significantly more negative impact on faculty morale than did respondents from the University of Alberta, the University of Regina, Simon Fraser University, the University of Manitoba, the University of Victoria, the University of Saskatchewan, and the University of Calgary. Respondents from the University of British Columbia reported a significantly more negative impact on their individual morale than did respondents from the University of Alberta, the University of Manitoba, and the University of Calgary.

Respondents from the University of British Columbia reported a significantly more negative impact on the socio-economic status of faculty than did respondents from the University of Manitoba, the University of Saskatchewan, the University of Regina, the University of Calgary and the University of Alberta. Respondents from Simon Fraser University reported a significantly more negative impact on the socio-economic status of faculty than did respondents from the University of Manitoba, the University of Saskatchewan, the University of Calgary and the University of Alberta.

Respondents from the University of British Columbia reported a significantly more negative impact on their individual socio-economic status than did respondents from the University of Calgary, the University of Regina, the University of Saskatchewan, the

University of Manitoba and the University of Alberta. Respondents from Simon Fraser University reported a significantly more negative impact on their socio-economic status than did respondents from the University of Calgary, the University of Saskatchewan, the University of Manitoba and the University of Alberta.

Respondents from the University of British Columbia reported a significantly more negative impact on the achievement of faculty career aspirations, on the achievement of their individual career aspirations, and on the effectiveness of academic staff than did respondents from the University of Alberta.

On the remaining 12 of the 21 variables, no significant differences were identified. In general, then, the perceived impact of financial constraint did vary by university. The University of British Columbia reported the most negative impact of financial constraint, whereas the University of Alberta reported significantly less negative impact.

Responses by Province

Table 4.8 reports the significant differences identified in the one-way analysis of variance of the perceived impact of financial constraint classified by province. Of the 21 variables measuring the perceived impact of financial constraint, 11 were identified as having significant differences.

Respondents from British Columbia agreed more strongly than respondents from Alberta, Saskatchewan and Manitoba that faculty generally viewed financial constraint as a significant problem. Respondents from British Columbia and Manitoba agreed more strongly than respondents from Alberta that faculty individually viewed financial constraint as a significant problem. Respondents from Manitoba agreed more strongly than respondents from British Columbia that financial constraint would probably last for at least another three years. Respondents from British Columbia reported a significantly more negative impact on faculty morale, on their individual morale, on the socio-economic status of faculty, and on the individual socio-economic status of faculty than did respondents from Alberta, Manitoba and Saskatchewan. Respondents from British Columbia reported a significantly more negative

Table 4.8

One-way Analysis of the Perceived Impact of Financial Constraint Classified by Province

Item	1 B.C. (N=161) Mean	*SD*	2 Alta. (N=154) Mean	*SD*	3 Sask. (N=72) Mean	*SD*	4 Man. (N=70) Mean	*SD*	*F* Ratio	Intergroup Differences
Section A										
12. Faculty generally perceive financial constraint at my university as a significant problem.	4.73	.72	4.20	.77	4.44	0.60	4.45	.68	14.53*	1>2, 1>3, 1>4
13. I view financial constraint at my university as a significant problem.	4.61	.83	4.12	.91	4.35	.65	4.43	.79	9.34*	1>2, 4>2
14. The situation of financial constraint at my university will probably last for at least another three years.	4.18	.87	4.23	.82	4.39	.70	4.51	.72	3.33*	4>1
Section B										
18. The impact of financial constraint on faculty morale at my university is generally _____.	1.56	.77	2.03	.62	1.92	.55	1.96	.49	15.42*	2>1, 4>1, 3>1

Continued

Table 4.8 (Continued)

Item	1 B.C. (*N*=161) Mean	*SD*	2 Alta. (*N*=154) Mean	*SD*	3 Sask. (*N*=72) Mean	*SD*	4 Man. (*N*=70) Mean	*SD*	*F* Ratio	Intergroup Differences
19. The impact of financial constraint at my university on my morale is _____.	1.89	.85	2.38	.74	2.18	.64	2.24	.75	11.29*	2>1, 4>1, 3>1
20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____.	1.78	.75	2.30	.72	2.39	.59	2.39	.57	23.20*	3>1, 4>1, 2>1
21. The impact of financial constraint at my university on my socio-economic status is _____.	1.88	.75	2.48	.72	2.49	.63	2.41	.72	23.11*	3>1, 2>1, 4>1
22. The impact of financial constraint on the achievement of faculty career aspirations at my university is generally _____.	2.12	.77	2.36	.74	2.14	.62	2.23	.66	3.21*	2>1

Continued

Table 4.8 (Continued)

Item	1 B.C. (*N*=161) Mean	*SD*	2 Alta. (*N*=154) Mean	*SD*	3 Sask. (*N*=72) Mean	*SD*	4 Man. (*N*=70) Mean	*SD*	*F* Ratio	Intergroup Differences
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	2.33	.79	2.60	.61	2.44	.74	2.41	.77	3.83*	2>1
25. The impact of financial constraint on the overall effectiveness of academic staff at my university is generally _____.	2.10	.74	2.40	.77	2.17	.73	2.21	.72	4.52*	2>1
Section C										
27. The impact of financial constraint is generally _____ research productivity at my university.	2.25	.70	2.19	.69	1.86	.63	2.09	.70	5.76*	1>3, 2>3

* Significant at .05 level.
*N*s reported are maximums.

In Section A, the scale is as follows: 1 = strongly disagree; 2 = disagree; 3 = neutral/uncertain; 4 = agree; 5 = strongly agree.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

In Section C, the scale is as follows: 1 = decrease greatly; 2 = decrease; 3 = neutral/uncertain; 4 = increase; 5 = increase greatly.

impact on the achievement of faculty career aspirations, on the achievement of individual career aspirations, and on the overall effectiveness of academic staff than did respondents from Alberta. Respondents from Saskatchewan reported that the impact of financial constraint was to decrease more greatly research productivity than did respondents from British Columbia and Alberta. On the remaining 10 of the 21 variables no significant differences were identified. In general, then, the perceived impact of financial constraint did vary by province. British Columbia emerged as perceiving the most severe impact of financial constraint, whereas Alberta perceived significantly less negative impact.

Responses by Size of University

Data were regrouped into three categories: "large universities" (University of British Columbia, University of Alberta, University of Manitoba), "medium-sized universities" (Simon Fraser University, University of Calgary, University of Regina, University of Saskatchewan, University of Victoria), and "small universities" (Brandon University, University of Lethbridge and University of Winnipeg). Table 4.9 reports the significant differences identified in the one-way analysis of variance of the perceived impact of financial constraint classified by size of university.

Of the 21 variables measuring the perceived impact of financial constraint, three variables were identified as having significant differences. Respondents from "large universities" reported a significantly more negative impact on faculty morale generally and on their individual socio-economic status than did respondents from "medium-sized universities." Respondents from "medium-sized universities" reported a significantly more negative impact on the reconsideration of priorities at their respective universities than did respondents from "large universities." On the remaining 18 of the 21 variables, no significant differences were identified. Generally, then, the perceived impact of financial constraint varied little by size of university.

Table 4.9

One-way Analysis of Variance of the Perceived Impact of Financial Constraint Classified by Size of University

Item	1 Large (N=237) Mean	*SD*	2 Medium (N=191) Mean	*SD*	3 Small (N=28) Mean	*SD*	*F* Ratio	Intergroup Differences
Section B								
18. The impact of financial constraint on faculty morale at my university is generally _____.	1.76	0.70	1.91	0.67	2.00	0.47	3.51*	2>1
21. The impact of financial constraint at my university on my socio-economic status is _____.	2.15	0.79	2.37	0.72	2.43	0.74	4.96*	2>1
26. The impact of financial constraint on the reconsideration of priorities at my university is generally _____.	2.69	1.10	2.34	1.05	2.37	1.18	5.58*	1>2

* Significant at .05 level.
*N*s reported are maximums.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

Responses by Membership in Faculty Association/Union

Table 4.10 reports the significant differences identified in *t* tests of the perceived impact of financial constraint classified by membership in faculty association/union. Of the 21 variables measuring the perceived impact of financial constraint, four were identified as having significant differences. Members in their respective faculty associations/unions reported a significantly more negative impact on faculty morale than did non-members. Members in their respective faculty associations/unions reported a significantly more negative impact than did non-members with regard to the efficient use of resources, the overall effectiveness of academic staff, and the general reconsideration of priorities at their universities. On the remaining 17 of the 21 variables, no significant differences were identified. Generally, then, perceived impact of financial constraint varied little by membership in faculty association/union.

Responses by Age

Table 4.11 reports the one-way analysis of variance of the perceived impact of financial constraint classified by age. Of the 21 variables measuring the perceived impact of financial constraint, five variables were identified as having significant differences. Respondents 50 to 59 years and respondents 40 to 49 years agreed more strongly than respondents 60 years and over that they viewed financial constraint individually as a significant problem. Respondents 39 years and under, 40 to 49 years, and 50 to 59 years reported a significantly more negative impact on the general quality of instruction than did respondents 60 years and over. Respondents 40 to 49 years reported a significantly more negative impact on their individual morale than did respondents 60 years and over. Respondents 39 years and under and respondents 40 to 49 years reported a significantly more negative impact on the socio-economic status of faculty generally than did respondents 60 years and over. Respondents 39 years and under and respondents 40 to 49 years reported a significantly more negative impact on their individual socio-economic status than did respondents 60 years and over. On the remaining 16 variables, no significant differences were

Table 4.10

***T* Tests of the Perceived Impact of Financial Constraint Classified by Membership in Faculty Association/Union**

	Member (N=400)		Non-Member (N=55)		t value
	Mean	*SD*	Mean	*SD*	
Section B					
18. The impact of financial constraint on faculty morale at my university is generally _____.	1.80	0.65	2.09	0.80	2.58*
24. The impact of financial constraint on the efficient use of resources at my university is generally _____.	2.46	0.98	2.76	1.03	2.12*
25. The impact of financial constraint on the overall effectiveness of academic staff at my university is generally _____.	2.21	0.75	2.42	0.79	1.96*
26. The impact of financial constraint on the recommendation of priorities at my university is generally _____.	2.49	1.06	2.83	1.25	2.16*

* Significant at .05 level.
*N*s reported are maximums.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

Table 4.11

One-way Analysis of the Perceived Impact of Financial Constraint Classified by Age

Item	1 39 years and under (N=95) Mean	*SD*	2 40-49 years (N=202) Mean	*SD*	3 50-59 years (N=121) Mean	*SD*	4 60 years and over (N=38) Mean	*SD*	*F* Ratio	Intergroup Differences
Section A										
13. I view financial constraint at my university as a significant problem.	4.32	0.88	4.41	0.84	4.50	0.72	3.97	1.10	4.06*	3>4, 2>4
Section B										
16. The impact of financial constraint on the quality of instruction at my university is generally _____.	2.08	0.65	1.91	0.71	1.99	0.69	2.52	0.83	8.49*	4>2, 4>3, 4>1
19. The impact of financial constraint at my university on my morale is _____.	2.16	0.83	2.08	0.77	2.17	0.78	2.50	0.83	3.04*	4>2

Continued

Table 4.11 (Continued)

Item	1 39 years and under (*N*=95) Mean	*SD*	2 40-49 years (*N*=202) Mean	*SD*	3 50-59 years (*N*=121) Mean	*SD*	4 60 years and over (*N*=38) Mean	*SD*	*F* Ratio	Intergroup Differences
20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____.	2.14	0.77	2.06	0.71	2.17	0.77	2.50	0.60	3.94*	4>2, 4>1
21. The impact of financial constraint at my university on my socio-economic status is _____.	2.17	0.78	2.18	0.76	2.33	0.77	2.68	0.63	5.33*	4>1, 4>2

* Significant at .05 level.
*N*s reported are maximus.

In Section A, the scale is as follows: 1 = strongly disagree; 2 = disagree; 3 = neutral/uncertain; 4 = agree; 5 = strongly agree.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

identified. Generally, then, the perceived impact of financial constraint varied somewhat by age, in that the group closest to retirement tended to perceive less of a negative impact than did other groups.

Responses by Sex

Table 4.12 reports the significant differences identified in *t* tests of the perceived impact of financial constraint classified by sex. Of the 21 variables measuring the perceived impact of financial constraint, two variables were identified as having significant differences. Males tended to agree more than females with the statement that government would probably increase funding in real terms next year. Females reported a significantly more negative impact on the efficient use of resources at their respective universities than did males. On the remaining 19 of the 21 variables, no significant differences were identified. Generally, then, the perceived impact of financial constraint varied little by sex.

Faculty Members in General and Individually

Matched pairs *t* tests were performed on the means of eight pairs of items in Part II of the questionnaire. The pairs included the following items: (1) 12 and 13 (on financial constraint as a significant problem at university); (2) 16 and 17 (on the quality of instruction); (3) 18 and 19 (on morale); (4) 20 and 21 (on socio-economic status); (5) 22 and 23 (on the achievement of career aspirations); (6) 27 and 28 (on research productivity); 29 and 30 (on voluntary service activities); and 31 and 32 (on contract work). Table 4.13 reports *t* tests of the perceived impact of financial constraint on faculty members in general and on individual respondents. Significant differences were identified in all eight pairs of parallel statements at the .001 level. Financial constraint was viewed by respondents to be more of a problem for faculty in general than for themselves as individuals. Likewise in comparison with impact on themselves as individuals, respondents perceived faculty in general as experiencing significantly more negative impact on the quality of instruction, morale, socio-economic status, and the achievement of career aspirations. Respondents perceived

Table 4.12

***T* Tests for Perceived Impact of Financial Constraint Classified by Sex**

	Male (N=369)		Female (N=88)		t value
	Mean	*SD*	Mean	*SD*	
Section A					
15. The government will probably increase the funding in my university in real terms next year.	2.31	0.99	1.99	0.92	2.76•
Section B					
24. The impact of financial constraint on the efficient use of resources at my university is generally _____.	2.54	1.00	2.29	0.93	2.14•

• Significant at .05 level.
*N*s reported are maximums.

In Section A, the scale is as follows: 1 = strongly disagree; 2 = disagree; 3 = neutral/uncertain; 4 = agree; 5 = strongly agree.

In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.

Table 4.13

***T* Tests of the Perceived Impact of Financial Constraint on Faculty Members in General and on Individual Faculty Members**

Item	Mean	*SD*	*t* value	*N*
Section A				
12. Faculty generally perceive financial constraint at my university as a significant problem.	4.46	.74	3.21*	455
13. I view financial constraint at my university as a significant problem.	4.38	.85		
Section B				
16. The impact of financial constraint on the quality of instruction at my university is generally _____.	2.01	.71	11.30*	454
17. The impact of financial constraint at my university on the quality of instruction I am able to provide is _____	2.36	.69		
18. The impact of financial constraint on faculty morale at my university is generally_____.	1.83	.68	9.82*	456
19. The impact of financial constraint at my university on my morale is _____.	2.16	.80		
20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____.	2.14	.74	4.45*	454
21. The impact of financial constraint at my university on my socio-economic status is _____.	2.26	.77		

Continued

Table 4.13 (Continued)

Item	Mean	*SD*	*t* value	*N*
22. The impact of financial constraint on the achievement of faculty career aspirations at my university is generally _____.	2.22	.73	7.26*	449
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	2.45	.73		
Section C				
27. The impact of financial constraint is generally to _____ research productivity at my university.	2.14	.70	7.29*	454
28. The impact of financial constraint is generally to _____ my research productivity.	2.36	.71		
29. The impact of financial constraint is generally to _____ voluntary service activities (e.g., committee service, community service) at my university.	2.45	.79	6.29*	451
30. The impact of financial constraint at my university is to _____ my voluntary service activities (e.g. committee service, community service).	2.63	.79		
31. The impact of financial constraint is generally to _____ contract work (e.g., outside consulting) at my university.	3.39	.72	6.03*	441
32. The impact of financial constraint at my university is to _____ my contract work (e.g., outside consulting).	3.20	.67		

* Significant at .001 level.
In Section A, the scale is as follows: 1 = disagree; 2 = strongly disagree; 3 = neutral/uncertain; 4 = agree; 5 = strongly agree.
In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.
In Section C, the scale is as follows: 1 = decrease greatly; 2 = decrease; 3 = neutral/uncertain; 4 = increase; 5 = increase greatly.

faculty in general as adjusting to financial constraint by decreasing research productivity and voluntary service activities, and significantly increasing contract work, compared with themselves as individuals in the system.

There were thus persistent differences in the perceived impact of financial constraint upon faculty members in general and on respondents as individuals. The pattern of persistent differences was such that on faculty in general, financial constraint was perceived to have more extreme impact than on the individual respondents. Thus, to some extent, the perceived impact of financial constraint may be exaggerated in its effect on faculty in general.

C. THE ACCEPTABILITY IN PRINCIPLE OF MEASURES FOR DEALING WITH FINANCIAL CONSTRAINT

Table 4.14 reports the means and rank ordering of responses to 68 measures according to their acceptability in principle for dealing with financial constraint. Of the 68 items, 13 items were rated between very acceptable (5) and acceptable (4); 27 items were rated between acceptable (4) and neutral/uncertain (3); 24 items were rated between neutral/uncertain (3) and unacceptable (2); and four items were rated between unacceptable (2) and very unacceptable (1). Of the 68 items, 40 were thus identified as acceptable or tending to be acceptable, whereas 28 items were identified as unacceptable or tending to be unacceptable.

Of the 13 most acceptable measures for dealing with financial constraint, 10 were substantive measures and three were process measures (33, 58, 55). (The numbers in parentheses refer to the item numbers in the questionnaire.) Of these 10 substantive measures, six (36, 70, 38, 72, 71, 39) were related to lobbying for additional funds and the promotion of the legitimacy of the university's activities. Two were voluntary alternatives to dismissal (41, 43).

Of the 27 measures tending to be acceptable, 21 were substantive measures and six were process measures (35, 34, 59, 81, 82, 57). Seven of the substantive measures were related to program reduction or expansion (67, 64, 63, 62, 66, 60, 61). Five were related to students (89, 69, 90, 68, 74). Three were voluntary alternatives to dismissal (44, 45, 42), and

Table 4.14

Rank Ordering of Measures According to Acceptability in Principle for Dealing with Financial Constraint

Rank Order		Item	Mean	*SD*	*N*
1	36.	That the university lobby government for more favorable funding arrangements	4.48	0.76	455
2	70.	That the university increase its efforts at fund raising from private benefactors	4.38	0.67	454
3	38.	That the university activate support groups (e. g. alumni) to lobby various constituencies on behalf of the university	4.36	0.79	453
4	33.	That the university involve faculty members in the formation of responses to financial constraint	4.35	0.77	453
5	58.	That the university establish clear guidelines for the process of program discontinuance	4.25	0.89	453
6	72.	That the university increase its efforts to obtain funding for the overhead costs of research	4.24	0.84	450
7	78.	That the university utilize energy conservation measures (e.g., electricity)	4.23	0.80	453
8	71.	That the university seek more business and industrial funds for research	4.22	0.87	455
9	39.	That the university utilize publicity campaigns in order to promote the legitimacy of its activities	4.19	0.90	456

Continued

Table 4.14 (Continued)

Rank Order		Item	Mean	*SD*	*N*
10	55.	That the university establish clear guidelines regarding the process of termination of redundant faculty members	4.13	1.03	452
11	41.	That the university provide incentives for the early retirement of faculty members	4.13	1.03	452
12.5	65.	That the university enhance its reputation by developing its programs of greatest academic potential	4.00	0.86	451
12.5	43.	That the university liberalize arrangements for voluntary leave without pay	4.00	0.91	455
14	84.	That the university reduce the number of administrators	3.99	0.96	456
15	35.	That the university establish a task force to identify various responses to financial constraint	3.96	0.92	452
16	34.	That the university review its mission as preliminary step to taking action to deal with financial constraint	3.95	1.06	453
17	67.	That the university enter into arrangements with other universities in the delivery of programs	3.93	0.77	454
18	59.	That the university utilize program review as a means of determining the priority of programs	3.91	0.90	448
21	79.	That the university utilize utility conservation measures (e.g., telephones)	3.87	1.03	450
21	64.	That the university expand current programs in high-demand areas	3.87	0.84	453

Continued

Table 4.14 (Continued)

Rank Order		Item	Mean	*SD*	*N*
21	63.	That the university develop new programs in high-demand areas	3.87	0.85	452
21	89.	That the university require food services to become self-supporting	3.87	0.88	453
23.5	69.	That the university raise admission standards	3.77	0.96	454
23.5	81.	That the university employ a mechanism to reallocate internal resources on a priority basis	3.77	0.78	449
25	62.	That the university merge certain related departments	3.75	0.87	453
26	73.	That the university incorporate companies to market products which it develops	3.64	1.02	455
27	90.	That the university require student housing to become self-supporting	3.60	0.98	455
28	44.	That the university provide incentives for the retraining of faculty members for high-demand areas within the university	3.59	1.08	456
29	66.	That the university undertake more programs in cooperation with business and industry	3.56	1.02	455
30	82.	That the university cut budgets in a selective manner	3.55	0.99	452

Continued

Table 4.14 (Continued)

Rank Order		Item	Mean	*SD*	*N*
31	45.	That the university provide incentives for faculty members to undertake voluntary career changes outside the university	3.50	1.04	456
32	57.	That the university base terminations of faculty members deemed redundant on program needs rather than on seniority	3.45	1.10	448
33	37.	That the university threaten to reduce its academic programs unless adequate funding is forthcoming	3.32	1.27	449
34	60.	That the university discontinue certain academic programs of low priority	3.28	1.08	451
35	42.	That the university provide incentives for changing the full-time employment of tenured faculty members to part-time employment	3.25	1.30	456
36	68.	That the university recruit students in discipline areas in which its enrollment is below capacity	3.24	0.96	453
37	87.	That the university reduce budget allocations for the comptroller's office	3.17	0.83	452
38	74.	That the university increase tuition charges	3.12	1.06	453
39	61.	That the university close certain departments of low priority	3.08	1.12	449
40	86.	That the university reduce budget allocations for the registrar's office	3.02	0.86	453
41	53.	That the university dismiss non-tenured academic staff deemed redundant	2.99	1.22	452

Continued

Table 4.14 (Continued)

Rank Order		Item	Mean	*SD*	*N*
42	75.	That the university increase fee charges for student computing	2.87	1.03	452
43.5	83.	That the university reduce budget allocations for non-academic staff	2.80	0.95	455
43.5	40.	That the university align its programs more closely with Canada's manpower needs	2.80	1.16	453
45	98.	That the university defer the maintenance of grounds	2.70	1.01	456
46	88.	That the university reduce budget allocations for student counseling services	2.66	1.04	454
47	77.	That the university incur an operating deficit	2.61	1.04	453
48	76.	That the university sell some of its assets	2.58	1.00	450
49	95.	That the university reduce budget allocations for faculty members' academic computing	2.54	1.04	453
50	97.	That the university reduce the subsidization of scholarly publications	2.52	1.06	452
51	96.	That the university reduce travel allowances for faculty members	2.48	1.12	453
52	54.	That the university dismiss tenured faculty members deemed redundant	2.46	1.31	450

Continued

Table 4.14 (Continued)

Rank Order		Item	Mean	*SD*	*N*
53.5	100.	That the university defer the purchase of new equipment	2.44	0.95	456
53.5	91.	That the university reduce budget allocations for student health services	2.44	1.01	453
55	85.	That the university reduce budget allocations. for secretarial support	2.43	0.95	455
56	56.	That the university base terminations of faculty members deemed redundant on seniority (first in/last out)	2.37	1.18	447
57	46.	That the university leave vacant faculty positions unfilled	2.30	1.08	455
58	99.	That the university defer the maintenance of facilities	2.26	0.94	456
59	47.	That the university fill vacant positions with sessional appointments	2.23	1.03	453
60.5	48.	That the university utilize tenure quotas within each department	2.17	1.09	448
60.5	80.	That the university cut budgets across-the-board for all departments	2.17	1.06	452
62	93.	That the university reduce budget allocations for instructional supplies	2.15	0.92	454
63	50.	That the university increase average faculty teaching workload	2.05	1.06	453

Continued

Table 4.14 (Continued)

Rank Order		Item	Mean	*SD*	*N*
64	94.	That the university reduce budget allocations for graduate student assistantships	2.03	0.99	456
65	51.	That the university negotiate a freeze in faculty members' salaries	1.92	0.94	455
66	49.	That the university abolish tenure for all new faculty members	1.77	1.11	455
67	52.	That the university negotiate a reduction in faculty members' salaries	1.62	0.89	455
68	92.	That the university reduce budget allocations for the purchase of library materials	1.61	0.75	456

The scale is as follows: 1 = very unacceptable; 2 = unacceptable; 3 = neutral/uncertain; 4 = acceptable; 5 = very acceptable.

three were related to reductions in administrative staff (84, 87, 86).

Of the 24 measures tending to be unacceptable, 22 were substantive measures and two were process measures (56, 80). Nine of these substantive measures were related to the dismissal of personnel (53, 83, 54, 85, 94), the non-filling of vacant positions (46, 47, 48), or a change in faculty working conditions (50). Four were related to reductions in resources provided to faculty (95, 97, 96, 93). Three were related to students (75, 88, 91), and three were related to reductions in expenditure for grounds, new equipment and facilities (98, 100, 99). The most unacceptable measures for dealing with financial constraint were four substantive measures, which were related to faculty members' salaries (51, 52), tenure (49), and the purchase of library materials (92).

D. FACTOR ANALYSIS OF THE ACCEPTABILITY IN PRINCIPLE OF MEASURES FOR DEALING WITH FINANCIAL CONSTRAINT

Table 4.15 reports the varimax factor solution for the acceptability in principle of measures for dealing with financial constraint using 10 factors. These 10 factors represent a data reduction from the 68 measures for dealing with financial constraint (Part III of the questionnaire). A factor loading greater than 0.40 was used as the criterion for including a given item in a given factor. Three items were double-loaded; nine items did not load; and a total of 59 items loaded on their respective factors. The 10 factors accounted for 47.5% of the total variance.

The resulting 10 factors were as follows:

1. reduction in programs;
2. reduction in administrative support;
3. reduction in academic support;
4. reduction in remuneration;
5. lobbying for legitimacy and additional funds;
6. development and expansion of programs;
7. student fees and services;

Table 4.15

Varimax Factor Solution for Measures for Dealing with Financial Constraint Using 10 Factors (N=396)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
60. That the university discontinue certain academic programs of low priority	.74	.05	-.06	.06	-.03	.09	.23	.07	.07	-.13
61. That the university close certain departments of low priority	.73	.08	-.02	.09	-.02	.10	.19	.03	.06	-.12
57. That the university base terminations of faculty members deemed redundant on program needs rather than on seniority	.64	-.10	.08	.10	.05	.14	-.13	.01	.00	.00
82. That the university cut budgets in a selective manner	.63	.05	.08	-.10	.03	.10	.06	-.20	.10	.21
54. That the university dismiss tenured faculty members deemed redundant	.62	.01	.06	.23	-.06	.08	-.01	-.19	.06	-.06

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
81. That the university employ a mechanism to reallocate internal resources on a priority basis	.60	-.02	.07	-.20	.10	.18	.09	-.07	.15	.17
55. That the university establish clear guidelines regarding the process of termination of redundant faculty members	.58	.04	-.07	.23	.08	-.10	.00	.31	.07	-.02
59. That the university utilize program review as a means of determining the priority of programs	.56	-.08	-.01	-.04	-.01	.15	.00	.36	.03	.15
58. That the university establish clear guidelines for the process of program discontinuance	.54	.01	-.10	.09	.08	-.05	-.05	.50	.06	.10
62. That the university merge certain related departments	.52	.16	-.09	.19	.03	.16	.03	.24	.09	.01
53. That the university dismiss non-tenured academic staff deemed redundant	.51	.02	.20	.28	.04	.13	.08	-.03	.00	-.08

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
87. That the university reduce budget allocations for the comptroller's office	-.02	.82	-.02	.01	-.04	.05	.02	.04	.01	.00
86. That the university reduce budget allocations for the registrar's office	.00	.78	-.06	.03	-.01	.05	.08	.03	.01	.00
88. That the university reduce budget allocations for student counseling services	.06	.59	.07	-.05	-.10	.03	.27	-.16	-.08	-.15
84. That the university reduce the number of administrators	-.03	.58	-.13	-.01	-.04	.07	.10	.02	-.08	.24
98. That the university defer the maintenance of grounds	-.07	.55	.30	.01	.05	-.15	-.18	.01	.04	.00
83. That the university reduce budget allocations for non-academic staff	.19	.55	.14	.11	.15	-.07	.00	-.03	-.02	.01
99. That the university defer the maintenance of facilities	-.12	.54	.46	.02	.01	-.01	-.09	.00	.13	-.08
85. That the university reduce budget allocations for secretarial support	.07	.54	.25	.11	.00	.01	.03	-.04	.01	.02

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
96. That the university reduce travel allowances for faculty members	.16	.07	.67	.16	-.03	-.04	-.06	-.03	-.02	.17
94. That the university reduce budget allocations for graduate student assistantship	-.05	-.02	.64	.09	-.10	.01	.22	.08	-.02	.00
93. That the university reduce budget allocations for instructional supplies	.01	.22	.60	.14	.01	-.06	-.04	.05	-.03	.04
95. That the university reduce budget allocations for faculty members' academic computing	.00	-.01	.60	.19	-.06	-.06	.03	.07	-.03	.18
92. That the university reduce budget allocations for the purchase of library materials	.00	.06	.58	.12	-.10	.09	.05	-.11	-.08	-.27
97. That the university reduce budget the subsidization of scholarly publications	.15	.01	.58	.07	-.06	-.01	.12	-.06	.09	.00
100. That the university defer the purchase of new equipment	-.03	.32	.54	.12	-.01	-.11	-.09	.13	-.10	.10

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
51. That the university negotiate a freeze in faculty members' salaries	.13	.05	.16	.71	-.10	-.10	.01	.00	.09	.11
52. That the university negotiate a reduction in faculty members' salaries	.13	.15	.13	.70	-.07	-.06	-.03	-.07	.09	.02
50. That the university increase average faculty teaching workload	.18	-.09	.25	.58	-.06	.11	.09	.03	.00	.00
80. That the university cut budgets across-the-board for all departments	-.23	.10	.23	.48	-.04	-.05	-.07	.21	-.09	.03
49. That the university abolish tenure for all new faculty members	.14	.00	.17	.47	-.07	.20	.13	-.21	.02	-.22
47. That the university fill vacant positions with sessional appointments	.17	.04	.08	.44	.15	.13	.16	-.06	.22	-.21
48. That the university utilize tenure quotas within each department	.13	-.05	.14	.41	.01	.29	.14	-.13	.07	-.05

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
39. That the university utilize publicity campaigns in order to promote the legitimacy of its activities	-.03	.01	.00	-.27	.66	.05	-.13	.20	.09	-.12
70. That the university increase its efforts at fund raising from private benefactors	.04	.01	-.14	.18	.65	.07	.16	.08	.04	.26
71. That the university seek more business and industrial funds for research	.07	.00	-.06	.12	.65	.31	.09	-.12	-.05	.12
38. That the university activate support groups (e.g., alumni to lobby various constituencies on behalf of the university	.02	.04	-.07	-.33	.64	-.03	-.03	.28	.10	-.13
36. That the university lobby government for more favorable funding arrangements	-.06	-.01	-.03	-.26	.60	-.02	-.02	.41	-.03	-.11
72. That the university increase its efforts to obtain funding for the overhead costs of research	-.03	-.02	-.11	.10	.50	.10	-.01	.02	-.02	.30
73. That the university incorporate companies to market products which it develops	.09	-.04	-.04	-.02	.44	.36	.11	-.12	.19	-.05

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
63. That the university develop new programs in high-demand areas	.21	.05	-.10	-.06	.05	.72	-.09	.13	.00	.11
64. That the university expand current programs in high-demand areas	.24	.04	-.15	-.14	.06	.70	-.05	.12	-.09	.08
66. That the university undertake more programs in cooperation with business and industry	.06	-.05	.05	.20	.29	.61	.15	-.04	.07	-.07
40. That the university align its programs more closely with Canada's manpower needs	.13	.04	.10	.10	.10	.58	.11	-.08	.16	-.26

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
90. That the university require student housing to become self-supporting	.13	.09	.04	-.07	.00	.08	.69	.00	-.14	.11
74. That the university increase tuition charges	.07	-.06	-.06	.13	.13	.00	.68	-.07	.10	.01
75. That the university increase fee charges for student computing	-.03	-.14	.08	.15	.00	-.04	.67	.06	.06	.01
89. That the university require food services to become self-supporting	.19	.22	.09	.00	.01	.08	.59	.12	-.15	.21
91. That the university reduce budget allocations for student health services	.00	.32	.17	-.01	-.09	.08	.44	-.07	.11	-.20

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
33. That the university involve faculty members in the formation of responses to financial constraint	.00	.02	.03	-.10	.09	-.04	-.13	.59	.07	.12
35. That the university establish a task force to identify various responses to financial constraint	.02	-.07	.07	-.06	.10	.14	.11	.54	.16	.01
34. That the university review its mission as preliminary step to taking action to deal with financial constraint	.18	-.08	.16	.01	.08	.07	.18	.42	.13	-.06

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
42. That the university provide incentives for changing the full-time employment of tenured faculty members to part-time employment	.23	-.05	.11	.03	-.02	-.07	-.07	.01	.66	.09
45. That the university provide incentives for faculty members to undertake voluntary career changes outside the university	.05	.07	-.12	.08	-.05	.20	.12	.18	.60	.05
43. That the university liberalize arrangements for voluntary leave without pay	.11	.01	-.07	.11	.11	.10	.02	.12	.58	.21
41. That the university provide incentives for the early retirement of faculty members	.15	-.03	-.08	.01	.31	-.07	-.01	.02	.56	-.08
44. That the university provide incentives for retraining of faculty members for high-demand areas within the university	-.07	-.09	-.04	.08	.03	.40	-.07	.24	.49	.08

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
79. That the university utilize utility conservation measures (e.g., telephones)	.03	.07	.22	.09	.05	.04	.05	.05	.13	.72
78. That the university utilize energy conservation measures (e.g., electricity)	.00	.07	.05	-.11	.10	-.04	.13	.11	.13	.66
37. That the university threaten to reduce its academic programs unless adequate funding is forthcoming	.21	.19	-.07	-.26	.21	.02	.07	.25	-.11	-.32
46. That the university leave vacant faculty positions unfilled	.19	.19	.05	.39	.07	-.12	.24	-.01	.14	.10
56. That the university base terminations of faculty members deemed redundant on seniority (first in/last out)	-.26	.03	.02	.35	.07	-.10	-.03	.30	-.10	-.16
65. That the university enhance its reputation by developing its programs of greatest academic potential	.26	.10	-.16	-.10	.18	.39	.07	.01	.00	.23

Continued

Table 4.15 (Continued)

Measures for Dealing With Financial Constraint	Factors and Factor Loadings									
	1	2	3	4	5	6	7	8	9	10
67. That the university enter into arrangements with other universities in the delivery of programs	.31	.00	-.01	.14	-.08	.31	.00	.29	.16	.20
68. That the university recruit students in discipline areas in which its enrollment is below capacity	-.29	.08	-.11	.10	.11	.14	-.08	.23	.06	.02
69. That the university raise admission standards	.14	.20	-.29	-.07	.16	.02	.36	-.07	.04	.13
76. That the university sell some of its assets	-.08	.14	.11	.04	-.14	-.07	.33	.03	.36	-.13
77. That the university incur an operating deficit	-.18	.26	-.03	-.04	-.02	-.13	-.07	.24	.13	-.34
Percent of Total Variance	10.6	8.2	5.6	4.4	4.0	3.3	3.2	3.1	2.6	2.4

Factor 1 = "reduction in programs"; factor 2 = "reduction in administrative support"; factor 3 = "reduction in academic support"; factor 4 = "reduction in remuneration"; factor 5 = "lobbying for legitimacy and additional funds"; factor 6 = "development and expansion of programs"; factor 7 = "student fees and services"; factor 8 = "involvement of faculty members"; factor 9 = "voluntary alternatives to dismissal"; and factor 10 = "conservation measures."

8. involvement of faculty members;
9. voluntary alternatives to dismissal; and
10. conservation measures.

It can be noted that the labels appended to each factor for ease of reference on occasion conceal a certain degree of complexity. Factor 4, "reduction in remuneration," is a case in point, where despite the arguable appropriateness of the label, the factor loads items referring to salary, workload, tenure, and a process measure (item 80). Factor 1, "reduction in programs," provides a second example of such complexity. Here the factor loads items referring to academic programs, dismissal of tenured and non-tenured faculty, and various process measures (items 57, 82, 81, 55, 59, 58). Such complexity is acknowledged by the use of quotation marks with each label in the subsequent text. These quotation marks serve to indicate that the operational meaning of each factor is based entirely on the items loading on that respective factor.

Acceptability of the 10 Factors

On the basis of the preceding factor analysis, it was possible to identify a pattern of diminishing acceptability to faculty members among the various measures for dealing with financial constraint. Table 4.16 reports the rank order of the 10 factors according to their acceptability in principle for dealing with financial constraint, beginning with the most acceptable factors. The rank order of the 10 factors was determined by ranking the factor mean for each of the factors. For each factor, the factor mean was calculated as a mean of individual items loading on that factor. The factor mean thus retains a relationship to the verbal referents of the scale in Part III of the questionnaire, where 1="very unacceptable" and 5="very acceptable." The means of the individual items were obtained from Table 4.14. Individual items are presented in order of their loading on their respective factors.

Faculty members tended to consider as very acceptable "lobbying for legitimacy and additional funds" (4.22), "involvement of faculty members" (4.09), and "conservation measures" (4.05). Similarly, faculty tended to consider as acceptable "voluntary alternatives

Table 4.16

Rank Ordering of Factors According to Acceptability in Principle for Dealing with Financial Constraint

Rank Order	Factor Mean		Factors and Items	Item Mean
1	4.22		**Factor 5: Lobbying for Legitimacy and Additional Funds**	
		39.	That the university utilize publicity campaigns in order to promote the legitimacy of its activities	4.19
		70.	That the university increase its efforts at fund raising from private benefactors	4.38
		71.	That the university seek more business and industrial funds for research	4.22
		38.	That the university activate support groups (e.g., alumni to lobby various constituencies on behalf of the university)	4.36
		36.	That the university lobby government for more favorable funding arrangements	4.48
		72.	That the university increase its efforts to obtain funding for the overhead costs of research	4.24
		73.	That the university incorporate companies to market products which it develops	3.64

Continued

Table 4.16 (Continued)

Rank Order	Factor Mean		Factors and Items	Item Mean
2	4.09		**Factor 8: Involvement of Faculty Members**	
		33.	That the university involve faculty members in the formation of responses to financial constraint	4.35
		35.	That the university establish a task force to identify various responses to financial constraint	3.96
		34.	That the university review its mission as preliminary step to taking action to deal with financial constraint	3.95
3	4.05		**Factor 10: Conservation Measures**	
		79.	That the university utilize utility conservation measures (e.g., telephones)	3.87
		78.	That the university utilize energy conservation measures (e.g,, electricity)	4.23

Continued

Table 4.16 (Continued)

Rank Order	Factor Mean		Factors and Items	Item Mean
4	3.67		**Factor 9: Voluntary Alternatives to Dismissal**	
		42.	That the university provide incentives for changing the full-time employment of tenured faculty members to part-time employment	3.25
		45.	That the university provide incentives for faculty members to undertake voluntary career changes outside the university	3.50
		43.	That the university liberalize arrangements for voluntary leave without pay	4.00
		41.	That the university provide incentives for the early retirement of faculty members	4.02
		44.	That the university provide incentives for retraining of faculty members for high-demand areas within the university	3.59
5	3.53		**Factor 6: Development and Expansion of Programs**	
		63.	That the university develop new programs in high-demand areas	3.87
		64.	That the university expand current programs in high-demand areas	3.87
		66.	That the university undertake more programs in cooperation with business and industry	3.56
		40.	That the university align its programs more closely with Canada's manpower needs	2.80

Continued

Table 4.16 (Continued)

Rank Order	Factor Mean		Factors and Items	Item Mean
6	3.51		**Factor 1: Reduction in Programs**	
		60.	That the university discontinue certain academic programs of low priority	3.28
		61.	That the university close certain departments of low priority	3.08
		57.	That the university base terminations of faculty members deemed redundant on program needs rather than on seniority	3.45
		82.	That the university cut budgets in a selective manner	3.55
		54.	That the university dismiss tenured faculty members deemed redundant	2.46
		81.	That the university employ a mechanism to reallocate internal resources on a priority basis	3.77
		55.	That the university establish clear guidelines regarding the process of termination of redundant faculty members	4.13
		59.	That the university utilize program review as a means of determining the priority of programs	3.91
		58.	That the university establish clear guidelines for the process of program discontinuance	4.25
		62.	That the university merge certain related departments	3.75
		53.	That the university dismiss non-tenured academic staff deemed redundant	2.99

Continued

Table 4.16 (Continued)

Rank Order	Factor Mean		Factors and Items	Item Mean
7	3.18		**Factor 7: Student Fees and Services**	
		90.	That the university require student housing to become self-supporting	3.60
		74.	That the university increase tuition charges	3.12
		75.	That the university increase fee charges for student computing	2.87
		89.	That the university require food services to become self-supporting	3.87
		91.	That the university reduce budget allocations for student health services	2.44

Continued

Table 4.16 (Continued)

Rank Order	Factor Mean		Factors and Items	Item Mean
8	2.88		**Factor 2: Reduction in Administrative Support**	
		87.	That the university reduce budget allocations for the comptroller's office	3.17
		86.	That the university reduce budget allocations for the registrar's office	3.02
		88.	That the university reduce budget allocations for student counseling services	2.66
		84.	That the university reduce the number of administrators	3.99
		98.	That the university defer the maintenance of grounds	2.70
		83.	That the university reduce budget allocations for non-academic staff	2.80
		99.	That the university defer the maintenance of facilities	2.26
		85.	That the university reduce budget allocations for secretarial support	2.43

Continued

Table 4.16 (Continued)

Rank Order	Factor Mean		Factors and Items	Item Mean
9	2.25		**Factor 3: Reduction in Academic Support**	
		96.	That the university reduce travel allowances for faculty members	2.48
		94.	That the university reduce budget allocations for graduate student assistantships	2.03
		93.	That the university reduce budget allocations for instructional supplies	2.15
		95.	That the university reduce budget allocations for faculty members' academic computing	2.54
		92.	That the university reduce budget allocations for the purchase of library materials	1.61
		97.	That the university reduce the subsidization of scholarly publications	2.52
		100.	That the university defer the purchase of new equipment	2.44

Continued

Table 4.16 (Continued)

Rank Order	Factor Mean		Factors and Items	Item Mean
10	1.99		**Factor 4: Reduction in Remuneration**	
		51.	That the university negotiate a freeze in faculty members' salaries	1.92
		52.	That the university negotiate a reduction in faculty members' salaries	1.62
		50.	That the university increase average faculty teaching workload	2.05
		80.	That the university cut budgets across-the-board for all departments	2.17
		49.	That the university abolish tenure for all new faculty members	1.77
		47.	That the university fill vacant positions with sessional appointments	2.23
		48.	That the university utilize tenure quotas within each department	2.17

The scale is as follows: 1 = very unacceptable; 2 = unacceptable; 3 = neutral/uncertain; 4 = acceptable; 5 = very acceptable.

to dismissal" (3.67), the "development and expansion of programs" (3.53), and "reduction in programs" (3.51). Faculty, however, tended to consider as neutral or uncertain "student fees and services" (3.18), and "reduction in administrative support" (2.88). Finally, faculty members were inclined to consider as unacceptable "reduction in academic support" (2.25) and "reduction in remuneration" (1.99).

E. GROUP DIFFERENCES IN ACCEPTABILITY

To reduce the complexity of data to a manageable level, the search to identify group differences in the acceptability in principle of measures for dealing with financial constraint was directed to the 10 factors developed in the previous section rather than to the original 68 items included in Part III of the questionnaire. Unloaded items in the factor analysis were excluded from further analysis for group differences in the acceptability in principle of measures for dealing with financial constraint.

The scores for the original items in each factor were converted to factor scores with a standardized mean of 0.0 and a standard deviation of 1.0. Consequently, the verbal referents to the original scale were lost, although the direction of the original scale was preserved. In order to maximize the number of questionnaires used in the answering of subsequent questions mean substitution was used in the calculation of factor scores if the number of missing items in Part III did not exceed seven, that is, if Part III was 90% complete.

Responses by Discipline Area

Data were regrouped into nine categories: (1) health sciences -- including responses from medicine, dentistry, nursing, rehabilitation medicine and pharmacy; (2) agriculture -- including agriculture/forestry and veterinary medicine; (3) business; (4) education -- including education and physical education; (5) engineering; (6) social science; (7) science; (8) fine arts and (9) humanities. Others were omitted from the analysis; namely, architecture, home economics, law and recreation, since their numbers were too low to be included in an analysis of variance procedure. Table 4.17 reports the significant differences

Table 4.17

One-way Analysis of Variance of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Discipline Area

FACTOR 1: REDUCTION IN PROGRAMS

Discipline Area	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1. Health Sciences	89	.15	0.86	6.04*	2>9, 3>9, 7>9, 1>9
2. Agriculture	19	.50	0.90		
3. Business	18	.47	1.07		
4. Education	64	-.14	0.79		
5. Engineering	21	.24	0.97		
6. Social Sciences	64	-.07	1.04		
7. Science	82	.23	1.08		
8. Fine Arts	18	-.25	0.91		
9. Humanities	59	-.65	0.96		

Continued

Table 4.17 (Continued)

FACTOR 2: REDUCTION IN ADMINISTRATIVE SUPPORT

	Discipline Area	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Health Sciences	89	-.18	0.87	3.63*	7>4
2.	Agriculture	19	-.25	0.72		
3.	Business	18	.28	0.88		
4.	Education	64	-.29	0.89		
5.	Engineering	21	-.16	0.91		
6.	Social Sciences	64	.26	1.13		
7.	Science	82	.37	1.18		
8.	Fine Arts	18	-.28	0.89		
9.	Humanities	59	-.05	0.94		

Continued

Table 4.17 (Continued)

FACTOR 6: DEVELOPMENT AND EXPANSION OF PROGRAMS

Discipline Area	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1. Health Sciences	89	.36	0.92	5.55*	1>9, 1>6
2. Agriculture	19	.26	0.89		
3. Business	18	.39	1.07		
4. Education	64	.11	0.97		
5. Engineering	21	.35	0.99		
6. Social Sciences	64	-.31	0.92		
7. Science	82	-.11	0.97		
8. Fine Arts	18	-.39	0.87		
9. Humanities	59	-.46	1.08		

Continued

Table 4.17 (Continued)

FACTOR 8: INVOLVEMENT OF FACULTY MEMBERS

Discipline Area	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1. Health Sciences	89	.03	0.93	4.40*	4>5, 4>7
2. Agriculture	19	-.19	0.66		
3. Business	18	-.20	0.95		
4. Education	64	.46	0.96		
5. Engineering	21	-.81	1.22		
6. Social Sciences	64	.08	0.86		
7. Science	82	-.23	1.02		
8. Fine Arts	18	.15	1.07		
9. Humanities	59	-.05	1.09		

* Significant at .05 level.

identified in the one-way analysis of variance of the acceptability in principle of measures for dealing with financial constraint classified by discipline area.

Of the 10 factors, four were identified as having significant differences. With regard to factor 1, "reduction in programs," respondents from humanities considered these measures less acceptable than did respondents from agriculture, business, science and health sciences. With regard to factor 2, "reduction in administrative support," respondents from science considered these measures more acceptable than did respondents from education. With regard to factor 6, "development and expansion of programs," respondents from health sciences considered these measures more acceptable than did respondents from humanities, or respondents from social sciences. With regard to factor 8, "involvement of faculty members," respondents from education considered these measures more acceptable than did respondents from engineering and science. On the remaining six factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied somewhat by discipline area.

Although, there was no identifiable pattern in this variation, some of the factor score differences have rational explanations: (1) The humanities is a program area under constant threat of reduction in a period of the ascendance of realist philosophies of education, which emphasize the application of knowledge. Thus any moves to reduce programs would be quite unacceptable to those working in vulnerable areas. (2) Science (that is, natural science) is a program area in which individual scholarly investigation and discovery are very highly valued and administrative activity correspondingly less prized. Education, however, is a program area in which there prevails an appreciation of all institutional roles, even those not directly involved in teaching and research. Thus the reduction of administrative support would tend to be more acceptable to respondents from science than from education. (3) Engineering and science are program areas in which individual scholarly investigation and discovery are very highly valued and involvement in governance matters is held in less esteem. Education, however, is a program area in which the value of participation in governance matters is strongly appreciated. Thus respondents from education would tend to be more accepting of

faculty involvement in matters relating to university responses to financial constraint than would be respondents from engineering or science.

Responses by Academic Rank

Data from the category "lecturer" and "other" were omitted, since their numbers were too low to be included in an analysis of variance procedure. Table 4.18 reports the significant differences identified in the one-way analysis of variance of the acceptability in principle of measures for dealing with financial constraint classified by academic rank.

Of the 10 factors, two were identified as having significant differences. With regard to factor 1, "reduction in programs," associate professors considered these measures less acceptable than did full professors. With regard to factor 9, "voluntary alternatives to dismissal," associate professors considered these measures more acceptable than did assistant professors. On the remaining eight factors no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little by academic rank.

Responses by Highest Academic Degree

Data from the categories "bachelor's" and "other" were grouped together with data from the category "master's" to form a category, "non-doctorate," with numbers sufficient to perform *t* tests. Table 4.19 reports the significant differences identified in *t* tests of the acceptability in principle of measures for dealing with financial constraint classified by highest academic degree.

Of the 10 factors, three were identified as having significant differences. With regard to factor 2, "reduction in administrative support," respondents with a doctorate considered these measures more acceptable than did respondents without a doctorate. However, with regard to factor 3, "reduction in academic support," respondents with a doctorate considered these measures less acceptable than did respondents without a doctorate. With regard to factor 4, "reduction in remuneration," respondents with a doctorate considered these measures

Table 4.18

One-way Analysis of Variance of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Academic Rank

Factor	1 Full Prof (N=203) Mean	*SD*	2 Assoc Prof (N=153) Mean	*SD*	3 Assist Prof (N=82) Mean	*SD*	*F* Ratio	Intergroup Differences
1. Reduction in Programs	.17	0.97	-.23	1.05	.01	0.91	7.19*	1>2
9. Voluntary Alternatives to Dismissal	.02	1.09	.09	0.90	-.26	0.90	3.44*	2>3

* Significant at .05 level.

Table 4.19

T Tests of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Highest Academic Degree

Factor	Doctorate ($N=368$)		Non-Doctorate ($N=82$)		*t* value
	Mean	*SD*	Mean	*SD*	
2. Reduction in Administrative Support	.07	1.02	-.31	0.83	3.55*
3. Reduction in Academic Support	-.05	1.04	.23	0.78	2.77*
4. Reduction in Remuneration	-.05	1.00	.21	0.97	2.15*

* Significant at .05 level.

less acceptable than did respondents without a doctorate. On the remaining seven factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little by highest academic degree.

Responses by Tenure Status

Table 4.20 reports the significant difference identified in *t* tests of the acceptability in principle of measures for dealing with financial constraint classified by tenure status. Of the 10 factors, one was identified as having a significant difference. With regard to factor 6, "development and expansion of programs," non-tenured respondents considered these measures more acceptable than did tenured respondents. On the remaining nine factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little according to tenure status. Presumably those lacking tenure status would see themselves more likely to obtain that status if development and expansion of programs were undertaken.

Responses by Administrative Status

Table 4.21 reports the significant differences identified in *t* tests of the acceptability in principle of measures for dealing with financial constraint classified by administrative status. Of the 10 factors, three were identified as having significant differences. With regard to factor 1, "reduction in programs" and with regard to factor 4, "reduction in remuneration," those respondents with no administrative status considered these measures less acceptable than did administrators. With regard to factor 2, "reduction in administrative support," those respondents with no administrative position considered these measures more acceptable than did administrators. On the remaining seven factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little according to whether the respondent currently held an administrative position. However, there did appear to be a pattern even in these few differences, such that acceptability was a function of closeness to vital interests.

Table 4.20

T Test of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Tenure Status

Factor	Tenured ($N=374$)		Non-Tenured ($N=76$)		*t* value
	Mean	*SD*	Mean	*SD*	
6. Development and Expansion of Programs	-.06	1.01	.28	0.93	2.74*

* Significant at .05 level.

Table 4.21

T Tests of Factor Scores of Measures Acceptable in Principle foro Dealing with Financial Constraint Classified by Administrative Status

Factor	Administrative Status ($N=121$)		No Administrative Status ($N=329$)		*t* value
	Mean	*SD*	Mean	*SD*	
1. Reduction in Programs	.21	0.91	-.08	1.02	2.79*
2. Reduction in Administrative Support	-.29	0.98	.11	0.99	3.77*
4. Reduction in Remuneration	.20	1.04	-.07	0.98	2.62*

* Significant at .05 level.

Faculty members who are not administrators perceive themselves as directly threatened by possible reductions in programs and in remuneration, whereas such faculty members are less directly affected by reductions in administrative support. Conversely, administrators are more frequently faced with problems related to the allocation of scarce resources than are faculty members who are not administrators. These problems would be more easily managed by the reduction of programs and remuneration, but not by reduction in administrative support, which would constitute a direct threat to administrators. This confirms a tentative hypothesis relating acceptability of measures to distance from their impact.

Responses by University

Data from Brandon University, the University of Lethbridge and the University of Winnipeg were omitted since their numbers were too low to be included in an analysis of variance procedure. Table 4.22 reports the significant differences identified in the one-way analysis of variance of the acceptability in principle of measures for dealing with financial constraint classified by university.

Of the 10 factors, three were identified as having significant differences. With regard to factor 6, "development and expansion of programs," respondents from the University of Manitoba found these measures more acceptable than did respondents from Simon Fraser University. With regard to factor 7, "student fees and services," respondents from the University of Victoria considered these measures less acceptable than did respondents from the University of Calgary, the University of Alberta and the University of Manitoba. With regard to factor 8, "involvement of faculty members," respondents from the University of British Columbia considered these measures more acceptable than did respondents from the University of Alberta. On the remaining seven factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little by university.

Table 4.22

One-way Analysis of Variance of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by University

FACTOR 6: DEVELOPMENT AND EXPANSION OF PROGRAMS

	University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Simon Fraser University	25	-.56	1.07	3.12*	5>1
2.	University of Alberta	82	.08	0.95		
3.	University of British Columbia	103	-.10	0.98		
4.	University of Calgary	62	.12	0.93		
5.	University of Manitoba	50	.31	0.76		
6.	University of Regina	17	.21	1.12		
7.	University of Saskatchewan	54	.13	1.16		
8.	University of Victoria	30	-.38	1.07		

Continued

Table 4.22 (Continued)

FACTOR 7: STUDENT FEES AND SERVICES

	University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1.	Simon Fraser University	25	-.28	0.96	5.36*	4>8, 2>8, 5>8
2.	University of Alberta	82	.26	1.07		
3.	University of British Columbia	103	-.21	0.98		
4.	University of Calgary	62	.27	1.02		
5.	University of Manitoba	50	.21	0.94		
6.	University of Regina	17	-.43	1.01		
7.	University of Saskatchewan	54	-.02	0.84		
8.	University of Victoria	30	-.69	0.91		

Continued

Table 4.22 (Continued)

FACTOR 8: INVOLVEMENT OF FACULTY MEMBERS

University	*N*	Mean	*SD*	*F* Ratio	Intergroup Differences
1. Simon Fraser University	25	-.16	1.31	3.89*	3>2
2. University of Alberta	82	-.34	1.03		
3. University of British Columbia	103	.32	0.90		
4. University of Calgary	62	-.09	1.00		
5. University of Manitoba	50	.07	0.74		
6. University of Regina	17	.03	0.98		
7. University of Saskatchewan	54	.18	0.98		
8. University of Victoria	30	-.29	0.97		

* Significant at .05 level.

Responses by Province

Table 4.23 reports the significant differences identified in the one-way analysis of variance of the acceptability in principle of measures for dealing with financial constraint classified by province. Of the 10 factors, five were identified as having significant differences. With regard to factor 2, "reduction in administrative support," respondents from British Columbia and Alberta considered these measures more acceptable than did respondents from Manitoba. With regard to factor 5, "lobbying for legitimacy and funds," respondents from British Columbia considered these measures more acceptable than did respondents from Alberta. With regard to factor 6, "development and expansion of programs," respondents from Manitoba, Saskatchewan and Alberta considered these measures more acceptable than did respondents from British Columbia. With regard to factor 7, "student fees and services," respondents from Alberta and Manitoba considered these measures more acceptable than respondents from British Columbia, whereas respondents from Alberta considered these measures more acceptable than respondents from Saskatchewan. With regard to factor 8, "involvement of faculty members," respondents from Saskatchewan and British Columbia considered these measures more acceptable than did respondents from Alberta. On the remaining five factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied somewhat by province, but no patterns could be discerned. In part, perhaps, these findings might reflect a relatively more politicized stance in British Columbia than elsewhere, in which respondents felt contrained to lobby and become involved in support of their interests.

Responses by Size of University

Data were regrouped into three categories: "large universities" (University of British Columbia, University of Alberta, University of Manitoba), "medium-sized universities" (Simon Fraser University, University of Calgary, University of Regina, University of Saskatchewan, University of Victoria), and "small universities" (Brandon University, University of Lethbridge and University of Winnipeg). Table 4.24 reports the significant

Table 4.23

One-Way Analysis of Variance of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Province

Factor	1 B.C. (N=158) Mean	1 B.C. (N=158) *SD*	2 Alta. (N=152) Mean	2 Alta. (N=152) *SD*	3 Sask. (N=71) Mean	3 Sask. (N=71) *SD*	4 Man. (N=69) Mean	4 Man. (N=69) *SD*	*F* Ratio	Intergroup Differences
2. Reduction in Administrative Support.	.14	1.01	.05	0.99	-.12	1.05	-.32	0.87	4.05*	1>4, 2>4
5. Lobbying for Legitimacy and Funds	.22	0.97	-.17	1.04	-.08	0.84	-.03	1.07	4.28*	1>2
6. Development and Expansion of Programs	-.23	1.02	.09	0.94	.15	1.14	.16	0.85	4.31*	4>1, 3>1, 2>1
7. Student Fees and Services	-.31	0.98	.26	1.03	-.12	0.90	.26	0.87	11.06*	2>1, 4>1, 2>3
8. Involvement of Faculty Members	.13	1.02	-.23	1.03	.14	0.98	.08	0.83	4.35*	3>2, 1>2

* Significant at .05 level.

Table 4.24

One-way Analysis of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Size of University

Factor	1 Large ($N=235$) Mean	*SD*	2 Medium ($N=188$) Mean	*SD*	3 Small ($N=27$) Mean	*SD*	*F* Ratio	Intergroup Differences
2. Reduction in Administrative Support	.01	0.92	.06	1.06	-.52	1.08	4.01*	2>3, 1>3
10. Conservation Measures	.01	0.94	-.08	1.03	.50	1.12	3.97*	3>2, 3>1

* Significant at .05 level.

differences identified in the one-way analysis of variance of the acceptability in principle of measures for dealing with financial constraint classified by size of university.

Of the 10 factors, two were identified as having significant differences. With regard to factor 2, "reduction in administrative support," respondents from "large" and "medium-sized universities" considered these measures more acceptable than did respondents from "small universities." With regard to factor 10, "conservation measures," respondents from "small universities" considered these measures more acceptable than did respondents from "large" and "medium-sized universities." On the remaining eight factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little by size of university. These findings might be indicative of less antipathy between faculty members and administrators in "small" universities in comparison with "large" and "medium-sized" universities.

Responses by Membership in Faculty Association/Union

Table 4.25 reports the significant differences identified in *t* tests of the acceptability in principle of measures for dealing with financial constraint classified by membership in the faculty association/union. Of the 10 factors, two were identified as having significant differences. With regard to factor 1, "reduction in programs," respondents who were members considered these measures less acceptable than did non-members. With regard to factor 9, "voluntary alternatives to dismissal," respondents who were members considered these measures more acceptable than did non-members. On the remaining eight factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little by membership in faculty association/union.

Responses by Age

Table 4.26 reports the significant differences identified in the one-way analysis of variance of the acceptability in principle of measures for dealing with financial constraint

Table 4.25

T Tests of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Membership in Faculty Association/Union

Factor	Member ($N=393$)		Non-Member ($N=55$)		*t* value
	Mean	*SD*	Mean	*SD*	
1. Reduction in Programs	-.06	0.99	.42	0.98	3.42*
9. Voluntary Alternatives to Dismissal	.04	0.98	-.29	1.10	2.29*

* Significant at .05 level.

Table 4.26

One-way Analysis of Variance of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Age

Factor	1 39 years and under (N=94) Mean	*SD*	2 40-49 years (N=197) Mean	*SD*	3 50-59 years (N=120) Mean	*SD*	4 60 years and over (N=38) Mean	*SD*	*F* Ratio	Intergroup Differences
2. Reduction in Administrative Support	.10	0.87	.01	1.02	.09	1.03	-.59	0.93	5.11*	1>4, 3>4, 2>4
4. Reduction in Remuneration	-.16	0.94	-.20	0.89	.26	1.07	.57	1.09	10.86*	4>2, 3>2, 4>1, 3>1
8. Involvement of Faculty Members	-.29	0.98	.07	1.02	.13	0.98	-.06	0.89	3.84*	3>1, 2>1

* Significant at .05 level.

classified by age. Of the 10 factors, three were identified as having significant differences. With regard to factor 2, "reduction in administrative support," respondents 39 years and under, respondents 40 to 49 years, and respondents 50 to 59 years considered these measures more acceptable than did respondents 60 years and over. With regard to factor 4, "reduction in remuneration," respondents from 40 to 49 years considered these measures less acceptable than respondents 60 years and over, or respondents 50 to 59 years. Respondents 39 years and under considered these measures less acceptable than did respondents 60 years and over, or respondents 50 to 59 years. With regard to factor 8, "involvement of faculty members," respondents 40 to 49 years and respondents 50 to 59 years considered these measures more acceptable than respondents 39 years and under. On the remaining seven factors no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little by age. It would appear that younger faculty members rely more on "administrative support," are more concerned with preserving their level of remuneration, and are less inclined to seek involvement in matters pertaining to financial constraint than are older faculty members.

Responses by Sex

Table 4.27 reports the significant differences identified in *t* tests of the acceptability in principle of measures for dealing with financial constraint classified by sex. Of the 10 factors, three were identified as having significant differences. With regard to factor 2, "reduction in administrative support," males considered these measures more acceptable than did females. With regard to factor 3, "reduction in academic support," males considered these measures less acceptable than did females. With regard to factor 10, "conservation measures," females considered these measures more acceptable than did males. On the remaining seven factors, no significant differences were identified. Generally, then, the acceptability in principle of measures for dealing with financial constraint varied little by sex. The findings that female faculty members appear less inclined than males to countenance "reduction in administrative support" may be indicative of the relatively fewer females

Table 4.27

T Tests of Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint Classified by Sex

Factor	Male ($N=365$)		Female ($N=85$)		*t* value
	Mean	*SD*	Mean	*SD*	
2. Reduction in Administrative Support	.05	1.03	-.20	0.83	2.36*
3. Reduction in Academic Support	-.06	1.01	.24	0.92	2.62*
10. Conservation Measures	-.05	1.00	.21	0.99	2.12*

* Significant at .05 level.

occupying academic and administrative posts within universities, a situation likely to change as females become more numerous and experienced in these posts.

F. THE RELATIONSHIP BETWEEN THE PERCEIVED IMPACT OF FINANCIAL CONSTRAINT AND THE ACCEPTABILITY IN PRINCIPLE OF MEASURES FOR DEALING WITH FINANCIAL CONSTRAINT

Two hundred ten Pearson correlation coefficients were calculated for the 21 variables measuring the perceived impact of financial constraint and the 10 factors measuring the acceptability in principle of measures for dealing with financial constraint. Table 4.28 reports these 210 coefficients, of which 63 were identified as significant. In what follows, the pattern of these significant correlations is delineated. The maximum number of correlations possible for each of the 10 factors is 21.

Three of the factors revealed a persistent pattern of correlations. Factor 4 correlated significantly with the perceived impact of financial constraint 18 times. The highest correlation was 0.35 with item 13. Factor 8 correlated significantly with the perceived impact of financial constraint 12 times. The highest correlation was 0.20 with item 15. Factor 5 correlated significantly with the perceived impact of financial constraint 10 times. The highest correlation was 0.20 with item 27.

None of the remaining factors revealed a persistent pattern of correlations. Each of the remaining factors correlated with the perceived impact of financial constraint six or fewer times. Factor 1 had six significant correlations; factor 10 had five significant correlations; factor 3 had four significant correlations; factor 2 and factor 6 each had three significant correlations; factor 7 had two significant correlations; and factor 9 had no significant correlations.

The results indicated that there was a relationship between the variables measuring the perceived impact of financial constraint and three of the 10 factors, namely, factor 4 ("reduction in remuneration"), factor 8 ("involvement of faculty members"), and factor 5 ("lobbying for legitimacy and additional resources"). Despite this pattern of correlations,

Table 4.28

Pearson Correlation Coefficients Between Variables Measuring the Perceived Impact of Financial Constraint and Factor Scores of Measures Acceptable in Principle for Dealing with Financial Constraint

Item	Factors 1	2	3	4	5	6	7	8	9	10
Section A										
12. Faculty generally perceive financial constraint at my university as a significant problem.	-.02	-.01	-.06	-.28*	.12*	.02	-.13*	.15*	.02	-.07
13. I view financial constraint at my university as a significant problem.	-.03	.00	-.10*	-.35*	.19*	.02	-.10*	.18*	-.03	-.09
14. The situation of financial constraint at my university will probably last for at least another three years.	-.06	.04	-.06	-.17*	-.04	.06	-.04	.14*	.07	.05
15. The government will probably increase the funding of my university in real terms next year.	.03	-.04	.07	.09	-.03	-.07	-.01	-.20*	.01	.01

Continued

Table 4.28 (Continued)

Item	Factors 1	2	3	4	5	6	7	8	9	10
Section B										
16. The impact of financial constraint on the quality of instruction at my university is generally _____.	-.11*	-.01	-.03	.25*	-.12*	.17*	.02	-.16*	.04	.05
17. The impact of financial constraint at my university on the quality of instruction I am able to provide is _____.	.07	-.01	.08	.18*	-.12*	.08	-.02	-.06	.07	.01
18. The impact of financial constraint on faculty morale at my university is generally _____.	-.02	-.06	.00	.16*	-.17*	.05	.07	-.18*	.03	-.04
19. The impact of financial constraint at my university on my morale is _____.	.03	-.07	.08	.26*	-.18*	-.01	.06	-.18*	.06	-.03
20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____.	-.01	-.07	.03	.17*	-.19*	.01	.04	-.05	.07	.10*

Continued

Table 4.28 (Continued)

Item	Factors 1	2	3	4	5	6	7	8	9	10
21. The impact of financial constraint at my university on my socio-economic status is _____.	-.02	-.11*	.06	.16*	-.18*	.04	.04	-.10*	.07	.07
22. The impact of financial constraint on the achievement of faculty career aspirations at my university is generally _____.	.01	-.04	.06	.15*	-.03	-.05	.05	-.11*	.02	.10*
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	.04	-.11*	.08	.12*	.01	-.05	.00	-.11*	-.02	-.02
24. The impact of financial constraint on the efficient use of resources at my university is generally _____.	.18*	.01	.09	.14*	-.06	.06	.06	-.05	-.05	.09*
25. The impact of financial constraint on the overall effectiveness of academic staff at my university is generally _____.	.11*	.03	.08	.25*	-.13*	.08	.07	-.10*	-.01	.03
26. The impact of financial constraint on the reconsideration of priorities at my university is generally _____.	.24*	-.04	.09	.16*	-.07	.08	.07	-.08	.00	.06

Continued

Table 4.28 (Continued)

Item	Factors 1	2	3	4	5	6	7	8	9	10
Section C										
27. The impact of financial constraint is generally to _____ research productivity at my university.	.08	-.04	.14*	.21*	-.20*	-.11*	-.09	-.04	.03	.12*
28. The impact of financial constraint is generally to _____ my research productivity.	.02	-.13*	.12*	.14*	-.04	-.04	-.07	-.09	.02	.09
29. The impact of financial constraint is generally to _____ voluntary service activities (e.g., committee service, community service) at my university.	.04	-.08	.04	.16*	-.09	.02	.04	-.08	.00	.08
30. The impact of financial constraint at my university is to _____ my voluntary service activities (e.g., committee service, community service).	.02	-.09	.13*	.14*	-.04	.02	.02	-.09*	-.01	.06
31. The impact of financial constraint is generally to _____ contract work (e.g., outside consulting) at my university.	.10*	.08	.02	-.07	-.03	-.02	-.07	-.01	.09	-.01

Continued

Table 4.28 (Continued)

Item	Factors									
	1	2	3	4	5	6	7	8	9	10
32. The impact of financial constraint at my university is to _____ my contract work (e.g., outside consulting).	.10*	.06	.03	-.03	.03	.10*	.03	-.04	.08	-.13*

*Significant at the .05 level.
N varied from 437 to 450 because of pairwise deletion of missing cases.

In Section A, the scale is as follows: 1 = strongly disagree; 2 = disagree; 3 = neutral/uncertain; 4 = agree; 5 = strongly agree.
In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.
In Section C, the scale is as follows: 1 = decrease greatly; 2 = decrease; 3 = neutral/uncertain; 4 = increase; 5 = increase greatly.

Factor 1 = "reduction in programs"; factor 2 = "reduction in administrative support"; factor 3 = "reduction in academic support"; factor 4 = "reduction in remuneration"; factor 5 = "lobbying for legitimacy and additional funds"; factor 6 = "development and expansion of programs"; factor 7 = "student fees and services"; factor 8 = "involvement of faculty members"; factor 9 = "voluntary alternatives to dismissal"; and factor 10 = "conservation measures."

nevertheless, the correlation coefficients remained low.

"Reduction in remuneration" was positively related to 15 variables measuring the perceived impact of financial constraint and negatively related to three variables. For example, "reduction in remuneration" was positively related to "the impact of financial contraint on the quality of instruction at my university generally" (item 16). In other words, as the perception of the impact of financial constraint grew more negative, the acceptability of "reduction in remuneration" also diminished. Again to take a further example, "reduction in remuneration" was negatively related to the perception that "the situation of financial constraint at my university will probably last for at least another three years" (item 14). As the perception of the permanence of financial constraint increased, the acceptability of "reduction in remuneration" decreased.

"Involvement of faculty members" was positively related to three variables measuring the perceived impact of financial constraint and negatively related to nine variables. For instance, "involvement of faculty members" was positively related to "the situation of financial constraint at my university will probably last for at least another three years" (item 14). As the perception of the permanence of financial constraint increased, the acceptability of "involvement of faculty members" increased as well. By way of further illustration, "involvement of faculty members" was negatively related to "the impact of financial constraint on the quality of instruction at my university generally" (item 16). As the perception of the impact of financial constraint grew more negative, the acceptability of "involvement of faculty members" increased.

"Lobbying for legitimacy and additional resources" was positively related to two variables measuring the perceived impact of financial constraint and negatively related to eight variables. For example, "lobbying for legitimacy and additional resources" was positively related to "I view financial constraint at my university as a significant problem" (item 13). As the respondents' views of the seriousness of financial constraint increased, so did the acceptability of "lobbying for legitimacy and additional resources." Again, "lobbying for legitimacy and additional resources" was negatively related to "the impact of financial

constraint on the quality of instruction at my university generally" (item 16). As the perception of the impact of financial constraint grew more negative, the acceptability of "lobbying for legitimacy and additional resources" increased.

When attention is focused on the two most general items measuring the perceived impact of financial constraint (item 12 and item 13), the perceived impact of financial constraint was negatively related to "reduction in remuneration," and positively related to "involvement of faculty members" and "lobbying for legitimacy and additional resources."

An alternative statistical method, regression analysis, was also used to examine the relationship between perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint. Stepwise multiple regression equations were developed for factors 1 to 10, (excluding factor 9, for which no variables entered the equation). All equations developed were significant at the .05 level (See Appendix D). The results indicated that the variables measuring the perceived impact of financial constraint were not strong predictors of the factor scores nor, consequently, of the acceptability in principle of measures for dealing with financial constraint. In no instance did the variance exceed 16%, indicating weak predictive power. Generally, then, there was no strong regression relationship between the perceived impact of financial constraint and acceptability in principle of measures for dealing with financial constraint.

G. SUMMARY

This chapter presented statistical findings related to the perceived impact of financial constraint; the acceptability in principle of measures for dealing with financial constraint; the relationship between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint; and group differences with regard to both the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint.

Faculty perceived financial constraint as a significant problem at their respective universities, a problem that would last for at least another three years. Faculty did not agree

that government would probably increase the funding of their universities in real terms next year. Faculty considered that the impact of financial constraint on the quality of their instruction was negative, as was its impact on their morale, their socio-economic status and the achievement of their career aspirations. Globally, faculty viewed the impact of financial constraint at their universities as negative. Moreover, faculty perceived that the impact of financial constraint was to decrease research productivity at their universities, to decrease their voluntary service activities, and to increase their contract work.

The perceived impact of financial constraint varied little by discipline area, highest academic degree, tenure status, administrative position, size of university, membership in faculty association/union, or sex. The perceived impact of financial constraint varied somewhat by academic rank, reflecting a greater negative impact on assistant professors compared to full professors. The perceived impact of financial constraint also varied somewhat by age, in that the group closest to retirement tended to perceive less of a negative impact than did other groups. The perceived impact of financial constraint varied considerably, however, by university and by province. The University of British Columbia reported the most severe impact of financial constraint, whereas the University of Alberta reported significantly less negative impact. The province of British Columbia emerged as perceiving the most negative impact of financial constraint, whereas the province of Alberta perceived significantly less negative impact. Furthermore, the perceived impact of financial constraint varied persistently between what faculty members perceived for themselves as individuals and what they perceived for faculty in general, the latter being more extreme than the former.

Of the 68 measures for dealing with financial constraint included in the questionnaire, 40 were identified as acceptable or tending to be acceptable in principle, whereas 28 were identified as unacceptable or tending to be unacceptable in principle.

Of the 40 measures identified as acceptable or tending to be acceptable, 31 were substantive measures and nine were process measures (33, 58, 55, 35, 34, 59, 81, 82, 57). Of the 31 substantive measures seven (36, 70, 38, 72, 71, 39, 37) concerned lobbying for

additional funds and the promotion of the legitimacy of the university's activities. Eight of the substantive measures (65, 67, 64, 63, 62, 66, 60, 61) were associated with program reduction or expansion. Five were voluntary alternatives to dismissal (41, 43, 44, 45, 42), and five referred to students (89, 69, 90, 68, 74). Three were related to reductions in administrative staff (84, 87, 86), and two were conservation measures (78, 79).

Of the 28 measures identified as unacceptable or tending to be unacceptable, 26 were substantive measures and two were process measures (56, 80). Twelve of these substantive measures regarded the dismissal of personnel (53, 83, 54, 85, 94), a change in faculty working conditions (50, 51, 49, 52), or the non-filling of vacant positions (46, 47, 48). Five referred to reductions in resources provided to faculty (95, 97, 96, 93, 92). Three were related to students (75, 88, 91), and three were associated with reductions in expenditure for grounds, new equipment and facilities (98, 100, 99).

For the purpose of data reduction, a factor analysis was conducted of the 68 measures for dealing with financial constraint contained in the questionnaire. Ten factors were identified. Faculty members tended to consider as acceptable "lobbying for legitimacy and additional funds," "involvement of faculty members," "conservation measures," "voluntary alternatives to dismissal," the "development and expansion of programs," and "reduction in programs." Faculty members tended to consider as neutral or uncertain "student fees and services" and "reduction in administrative support." Faculty members tended to consider as unacceptable "reduction in academic support" and "reduction in remuneration."

The identification of group differences with regard to the acceptability in principle of measures for dealing with financial constraint was based on the factor analysis of the 68 measures for dealing with financial constraint. The acceptability in principle of measures for dealing with financial constraint varied little by academic rank, highest academic degree, tenure status, administrative status, university, size of university, membership in faculty association/union, age, or sex. However, the acceptability in principle of measures for dealing with financial constraint varied somewhat by discipline area and province, here although without identifiable patterns.

A weak relationship was identified between the 21 variables measuring the perceived impact of financial constraint and the 10 factors measuring the acceptability in principle of measures for dealing with financial constraint. Three of the 10 factors revealed a persistent pattern of correlations, although the correlation coefficients were low. The perceived impact of financial constraint was related to the acceptability of "reduction in remuneration," to the acceptability of "involvement of faculty members," and the acceptability of "lobbying for legitimacy and additional funds." Moreover, efforts to relate the perceived impact of financial constraint to the acceptability in principle of measures for dealing with financial constraint through a regression relationship yielded low predictive power. In brief, the perceived impact of financial constraint was only weakly related to the acceptability in principle of measures for dealing with financial constraint.

Chapter V

QUALITATIVE FINDINGS

A. INTRODUCTION

The purpose of Chapter V is to report a content analysis of the open-ended comments made by respondents in returned questionnaires. These comments provide descriptive data which supplement the statistical data presented in Chapter IV.

Taken globally, these comments are illustrative of the range and intensity of opinion among respondents regarding the perceived impact of financial constraint at their universities, and regarding the acceptability of measures for dealing with financial constraint. Some comments confirmed tendencies for the entire sample of respondents as reported in Chapter IV. Other comments manifestly departed from those average responses. In either case, the comments furnished insights, in the respondents' own words, into the affective aspects of financial constraint.

B. PERCEIVED IMPACT OF FINANCIAL CONSTRAINT

This section reports comments relating to the perceived impact of financial constraint.

Financial Constraint as a Significant Problem

Thirty-four faculty members expressed a range of opinion with regard to whether financial constraint constituted a significant problem at their universities. About one-half of the comments in this category indicated that financial constraint was indeed a serious concern. This view is illustrated in the following comments:

> Financial constraint appears to be a reality facing every aspect of Canadian society, including the university. From my own perspective, much of the financial constraint is a hard but necessary activity.

> For the last two years, faculties and departments have used zero-budgeting procedures with 10% reduction and arguable add-backs. You can't do this forever. [Increases in] grants have been in the order of three to four percent. Pay raises are the same. [There is] nothing like a slow death.

> I believe that the situation at [this university] is the most serious of all the universities in Canada. Answers to the questionnaire items do not fully reveal the damage that has been done here.
>
> There was fat to be trimmed but now we are anemic.

Approximately one-third of the comments indicated that financial constraint was not yet a serious concern, although it had the potential to become one. The following comments are representative of this view:

> I am not conscious of a serious problem yet. There seems to be inadequate secretarial support and inordinate delays in administration, more due to the system than lack of funds.
>
> Financial constraint at my university is not serious. Utilization of resources, however, must be done more efficiently.
>
> [Financial constraint] has been faced and dealt with in a fair and reasonable manner, although we all grouse. Real problems are, however, on the horizon if conditions remain unchanged or deteriorate.

One respondent assessed the problem of financial constraint as an issue that presented a serious challenge to the autonomy of the university:

> What is at issue is the nature of the university itself. From within the social science perspective the restraint argument is seen largely as a mechanism for achieving directional goals by those who either provide the funding or those who administer their application. What is at risk here is the role and integrity of social criticism, nagging reminders of how the larger society is actually functioning. At a very fundamental level the authorities in power have very little confidence and respect for the autonomy of the university.

Permanence and Cause of Financial Constraint

Approximately two-thirds of the 52 faculty commenting on permanence anticipated that financial constraint was likely to remain a feature of the university situation for the foreseeable future. This anticipation is demonstrated in the following remarks:

> After five years of restraint (two officially) we are lacking bone and muscle, not fat. Further restraint seems unthinkable, but it is sure to come and we will just as surely cease to be a legitimate academic institution.
>
> Constraint has bitten deeply and so, even if real funding increases next year, the effects of constraint will continue. My suspicion is that constraint will be a constant feature at [this university] for the next decade.

More rare is the expectation expressed by only one respondent that funding will eventually be restored:

> Insofar as financial constraint is a result of public (government) policy, it would seem that services must be cut back. To the extent that those services are deemed important by society, funding for them will eventually be restored.

Deficiencies in government funding of universities were identified as a cause of financial constraint. A number of faculty considered that the present federal-provincial transfer arrangements were deleterious to universities. One faculty member suggested:

> There should be a way for the federal government to control the provinces' use of federal funds earmarked for education. I find it scandalous that the provinces can use such funds for other purposes.

Other faculty expressed the suggestion that funding be provided in a more reliable and timely fashion:

> The worst thing about government funding of universities is that it is unpredictable.

> The biggest problem that the university faces is the timing of its budget grant from the provincial government. Some of the financing for teaching, operating and even administrative expenses should be provided on a five-year basis so that departments and faculties could make longer and more detailed projections of their needs and possibilities.

One respondent attacked the priorities of both federal and provincial governments with regard to the funding of universities:

> In my view it is ridiculous that my university (or other Canadian universities) should have to grapple with financial constraint. Canada is a very rich country (in world terms), and if we spent our resources for socially useful purposes, there would be ample funding for Canadian universities. . . . I think it is a wasteful exercise to wrestle with internal gimmicks to solve our universities' financial crisis. A change in the foolish spending priorities of the federal government in Ottawa and of the provincial government would go a long way in solving our problems.

About one-third of the respondents indicated that the prospect of an impending provincial election gave rise to uncertainty with regard to the permanence of financial constraint. (All four Western Canadian provinces were to hold elections during the spring of 1986.) The following quotations are representative of this uncertainty:

> Election rumors suggest an increase [in funding], but the economic status of the province suggests a decrease.

> My uncertainty in questions 14 and 15 is due to the likelihood of an election soon, which might temporarily lead to an increase in funding. I believe a change in government would result in a long-term increase.

> A provincial election due shortly will influence university funding.

Faculty, it appears, are aware of the capricious turns which funding policies might take during an election year.

Quality of Instruction

A majority of the 32 faculty commenting reported that financial constraint has adversely affected the quality of instruction. The decline was associated with an increase in class size or in teaching load and the decrease in time available for each student.

> I see at our university a marked decrease in the number of written assignments the students are expected to complete. With more classes to teach, there is less preparation time if one is committed to research. There is no doubt that the financial constraints have affected the quality of my teaching.

Some faculty identified the lack of teaching assistants as a contributing factor to the decline in the quality of instruction. For example, one respondent wrote:

> A basic problem is no help in the classroom -- large numbers of students mean more exams to mark.

Others observed that teaching is being neglected for the sake of research, which is often considered essential for promotion:

> I see most universities ... placing increasing emphasis on research at the expense of teaching. The policies of restraint tend, I fear, to accelerate that shift in emphasis, and this is the greatest threat to the universities.

About one-quarter of faculty commenting claimed that financial constraint has not affected the quality of their instruction. The following are examples of their views:

> I could teach in a mud hut.

> [Financial constraint has] no great effect because I teach classes with limited enrollment.

> The quality of instruction need not suffer. Large class sizes aren't necessarily bad. It is better to be within 50 feet of genius than to be within five feet of mediocrity.

Faculty Morale

Most of the 25 faculty commenting on morale claimed that financial constraint was detrimental. This diminished enthusiasm is reflected in the following:

> It is difficult to be creative, enthusiastic and far-sighted when you are continually running into petty financial barriers.

> The restraint at [this university] has seriously affected the enthusiasm and morale of the faculty. We are in the third year of restraint and the morale, enthusiasm and productivity has declined.
>
> Budget cuts have created salary cuts [leading to] poor morale and insecurity among colleagues. Adjustments have come in the area of increased time and effort spent on searching for funding sources to keep program and services at par.

Some faculty associated morale problems with the uncertainty surrounding the incidence of cuts:

> The uncertaintly perceived by faculty as to the future of staff and programs is demoralizing.

Other remarks evidenced rivalry between faculty members, or between discipline areas:

> The disparity between hard-working and lazy faculty is increasing the amount of time and demands made on individuals.
>
> The Faculty of Education suffers more than other parts of the institution. This is not uncommon, but it is affecting morale, because our contribution to the overall progress of the institution is major.

Only one respondent sounded an optimistic note on the effect of financial constraint on faculty morale.

> Morale for many is higher because of an awareness that we are using public funds very responsibly.

Faculty Socio-economic Status

Twelve faculty expressed varied reactions with regard to the effect of financial constraint on their socio-economic status. Their opinions were evenly divided between those who appeared bitter and those who appeared to be unconcerned.

The view of the former respondents is exemplified by the comments below:

> Salaries, buildings and staffing are all greatly reduced at [this university] in favor of multitudes of megaprojects. [This university] has had no pay increase at all (or increments) for the last three years. We are 20 to 25% behind our 1982 income levels.
>
> Our salary settlements in recent years have been scandalously low.

The view of the latter respondents is illustrated by the following simple remarks:

> We are an old rich faculty.

We're among the best paid in Canada.

Faculty Career Aspirations

A majority of 10 comments with regard to the achievement of faculty career aspirations indicated that financial constraint had little if any effect:

I get things done somehow.

Most faculty members can afford to do whatever they want.

A minority of respondents indicated that financial constraint affected their career aspirations through diminishing time available for research.

[The effect had been] to reduce time for scholarly work.

Overall Efficiency

No consensus was evident in the 51 comments with regard to the overall effect of financial constraint on efficiency. Opinion was about evenly divided between those who considered that financial constraint had some positive effects and those who considered that its effects were largely detrimental to organizational efficiency.

Some respondents were emphatic in their assessment of the positive effects of financial constraint:

> Budget constraints in themselves are not necessarily a bad thing, just as an endless flow of money is not necessarily a good thing. If constraints encourage the intelligent manipulation of resources and imagination in their application, then restraint can be a good thing.
>
> I think that there is a lot of waste of resources and that many academic staff ride on a notion of what a university professor should be and tend to sit back and use time inefficiently. Therefore, financial constraint could be the best thing to happen to universities as long as productive hard-working staff are minimally affected. In other words, we must jar the freeloaders into the real world and promote a work ethic among the academic staff.
>
> Constraint at [this university] has resulted in a healthy reflection on our purpose, our priorities, our weak programs, etc. The changes that have resulted to date have been positive.

Others perceived that the initial effects of financial constraint were beneficial, although subsequent effects are questionable. In one respondent's words:

> Initially some of the financial restraint brought positive results in that resources were used more efficiently. However, restraint in our faculty has been ongoing and to such an extent that morale is markedly affected. However, in some departments I still hear examples of inexcusable waste of resources.

These comments were matched by those of other faculty who judged that the effects of financial constraint at their universities were basically harmful. Examples of this opinion are presented below:

> The government hoped that restraint would make the university more effective and efficient. It hasn't, because restraint is a very clumsy tool and because our university president lacks the skills to maneuver in this political environment.

> Crisis management is not efficient.

> The university (and faculty) has suffered three years of budget reducton and has met the shortfall by increased efficiency. No further reductions are possible without either reducing salaries or terminations. Asking about various other possibilities for budget reduction is pointless in our situation, we just do not have them as alternatives.

> As a member of the university budget committee I see many units in which severely limited resources mean inefficient delivery of educational services to both faculty and students.

Research Productivity

The majority of the 20 faculty commenting on the effect of financial constraint on research productivity perceived that the effect was to decrease the amount of time and energy for research:

> If a full-time staff member must teach 90 to 100 first-year students in two sections, research becomes impossible with the burden of marking.

Another respondent associated decreased research productivity with frozen academic salaries:

> With faculty salaries really frozen, there is little incentive to do research, since increase in salaries does have a basis in the amount of research done.

Still another associated decreased research productivity with lack of adequate support staff:

> Budget restraints cause well-paid professionals to do menial tasks (lack of support staff), to be overworked to the point that students suffer and research stops, and to get satisfaction outside the university, further diminishing their contribution.

Some respondents linked declining research productivity to insufficient numbers of faculty:

> The principal constraint on research activity is the number of faculty. Increased enrollment in some faculties, e.g., Arts and Sciences, has resulted in an encroachment upon time for research. In faculties with a significant service component to the community, lack of time for research is even further amplified.

Others indicated that financial constraint had little effect on research productivity, since research funds are obtained from outside the university:

> In science departments the two factors which influence research productivity most are: (1) funding through federal agencies, e.g., NSERC; and (2) teaching load. Very little research money comes through university funding. This is often forgotten.

Finally, a minority of respondents claimed that financial constraint provided the impetus for increased research productivity:

> The relationship among tenure, promotion, and financial ability of the university has caused many professors (assistant and associate at least) to improve their productivity in research and publication. A healthy tension proved to be good. When the "little" becomes big and causes negative results I do not know.

Voluntary Service Activities

No consensus was evident in comments regarding the effect of financial constraint on voluntary service activities. The opinions diverged in three directions.

About one-third of the 15 respondents reported that financial constraint decreased voluntary service activities. Some of this decrease is attributable to increased time spent on obtaining funds, and some is attributable to increased workload:

> More time [is spent] chasing down support [and so there is] less time for other things.

> [Voluntary service is decreased] due to decreased morale and increased workload.

About one-third of the respondents reported that financial constraint had no effect on voluntary service activities. The remainder indicated that financial constraint increased voluntary service activities. This tendency is illustrated in the following:

> Committee service probably increases because of restraints on research funding. Faculty can't get credit for work and publications and so they try for service.

> Some faculty including myself have recognized that political action within the

university and community is one way of ameliorating our financial situation, and so we have become more active in voluntary service.

These two comments suggest that increased voluntary service activities may provide an alternate avenue toward promotion, or act as a vehicle of political expression within the university.

Contract Work

Approximately one-half of the 30 faculty commenting indicated that financial constraint had the effect of increasing contract work. This pattern is reflected in the following quotation:

> Of the people that I personally know -- mostly in economics, commerce and engineering -- most have increased their consulting work both to obtain extra income and to provide their own funding for at least a portion of their own research work.

One respondent was particularly cynical in pointing out the dynamics underlying contract work:

> When universities pay low salaries with few performance controls, the result is that faculty will seek outside sources of income and eventually treat the academic position (teaching, research) as a part-time job.

Another respondent observed that contract work could become a source of animosity:

> Some faculty members are doing well, i.e., outside consulting with royal commissions, companies, etc. The perceived life style of some of these high fliers causes much of the prejudice against universities in general.

About one-third of the respondents reported that financial constraint had no effect on their contract work, or that they do not engage in contract work. Only one respondent noted that financial constraint decreased contract work:

> There is less time available for consulting work. More time has to be spent on committee work.

C. ACCEPTABILITY OF MEASURES FOR DEALING WITH FINANCIAL CONSTRAINT

This section reports comments relating to measures for dealing with financial constraint. The comments are reported by item under the headings of the 10 factors developed in Chapter IV. For each item, there are reported three selected illustrative

comments under the rubrics "for," "against," and "other." In some instances, when no corresponding written comment was to be found, one or even two of these rubrics have been omitted. For each item, the numbers beside these rubrics indicate the frequency of written comments compiled under the corresponding rubric.

Factor 1: Reduction in Programs

Item 60 (N=32). *That the university discontinue certain academic programs of low priority.*

For: (10) My general feeling is that there are some programs of low academic priority that could be cut back.

Against: (5) Restraint should never be an excuse to reduce standards or to cut programs that are essential to the very nature of a university. In other words, the university has to develop a clear idea of what it is and how this should be expressed.

Other: (17) Defining what is low priority is such a quagmire.

Item 61 (N=11). *That the university close certain departments of low priority.*

For: (2) We must provide excellent "core" courses and good research facilities. This will require elimination of less important departments and areas of study.

Against: (1) It is possible that some departments where we may not be doing the best job could be closed, but the saving from such closing is often minimal.

Other: (8) It depends on how low priority is determined and the fate of released faculty members.

Item 57 (N=6). *That the university base terminations of faculty members deemed redundant on program needs rather than on seniority.*

For: (2) I believe faculty and administrators should be cut on the basis of productivity and contribution. Tenure offers too much security.

Other: (4) Who decides?

Item 82 (N=11). *That the university cut budgets in a selective manner.*

For: (4) Although all areas need to be considered, cuts must be made where needed, not arbitrarily.

Against: (2) I do not believe that universities should cut budgets.

Other: (5) Cuts are not uniform across disciplines, and I believe that the overall effect is beginning to distort the shape of the university. Program cuts so far tend to favor technical training programs at the price of educational programs.

Item 54 (N=20). *That the university dismiss tenured faculty members deemed redundant.*

Against: (7) This is oversimplified and not acceptable as stated.

Other: (13) The problem is the definition and decision for redundancy. It is a way to get rid of "deadwood" which does exist. But where is the line between this and academic politics?

Item 81 (N=14). *That the university employ a mechanism to reallocate internal resources on a priority basis.*

For: (3) [Acceptable,] depending on what it [the mechanism] is.

Against: (1) Politics would be the priority. I'm too busy working to have the time to be a successful politician.

Other: (10) It depends on what the mechanism is.

Item 55 (N=7). *That the university establish clear guidelines regarding the process of termination of redundant faculty members.*

For: (5) I must wonder what safeguards could be introduced to insure the integrity of any reduction scheme.

Other: (2) It depends on who establishes these [guidelines].

Item 59 (N=7). *That the university utilize program review as a means of determining the priority of programs.*

For: (5) Our university is having a hard time deciding on mechanisms to evaluate different departments. We have the capability to add on programs very easily as we fight very hard for them, but we are singularly awkward about abandoning programs of low demand that are irrelevant in today's society.

Other: (4) Program reviews are often a charade.

Item 58 (N=4). *That the university establish clear guidelines for the process of program discontinuance.*

For: (2) If one accepts the idea of discontinuance at all, then of course it must be done this way.

Other: (2) It depends on whether only the administration establishes these [guidelines].

Item 62 (N=6). *That the university merge certain related departments.*

For: (2) Departments [which are] very small, very expensive [and] with complex administrative systems should be amalgamated with related departments or become graduate only.

Against: (2) It just doesn't work. There is no saving.

Other: (2) This depends on the particular situation.

Item 53 (N=19). *That the university dismiss non-tenured academic staff deemed redundant.*

For: (2) It depends on how the deeming is done of course.

Against: (4) Who is redundant after 15 years of cost-cutting?

Other: (13) It depends. Procedures and criteria are critical.

The comments suggested that, although program reduction is definitely likely to be a controversial manner of dealing with financial constraint, the acceptability of program reduction was highly situational. A recurrent theme in the comments is that the acceptability of program reduction measures "depends." It depends both on who is involved in making the

decision to reduce programs and on how that decision is made. Some faculty, it appears, might be prepared to acquiesce in the process of program reduction if faculty members and not just administrators were involved in the development of suitable procedures and criteria.

Factor 2: Reduction in Administrative Support

Item 87 (N=1). *That the university reduce budget allocations for the comptroller's office.*

Other: (1) I don't know about this office's efficiency, i.e., if personnel are in excess or the overall management is inefficient.

Item 86 (N=1). *That the university reduce budget allocations for the registrar's office.*

For: (1) With computerization of this office and facility to use information from departmental terminals, yes.

Item 88 (N=4). *That the university reduce budget allocations for student counseling services.*

For: (2) Student services, particularly in the area of academic counselling, proliferates while classes become larger and faculty positions are constant or decrease.

Against: (2) Ours is already cut to the bare bones.

Item 84 (N=25). *That the university reduce the number of administrators.*

For: (21) Our university has developed a top-heavy and very expensive administration. It is very difficult not to feel that, in a time of financial constraint, a greater effort to reduce administration costs might be the best solution.

Against: (2) I fully support the university leadership in the way in which they have approached the problems of living with constraint.

Other: (2) An associate dean position will be eliminated because of financial constraint.

Item 98 (N=4). *That the university defer the maintenance of grounds.*

For: (4) This university spends far too much on landscaping. We seem to have an unlimited supply of tractors, motorized wheelbarrows, leaf blowers, lawn aerators, etc. This must give the impression to politicians and public that all is well financially.

Item 83 (N=14). *That the university reduce budget allocations for non-academic staff.*

For: (6) Money could be saved almost instantly by reducing redundancy and overlap where three or four service departments duplicate their services.

Against: (4) Cutbacks now often mean loss of non-academic staff positions. In most cases this is counterproductive and done only because the academics in a department make the decision.

Other: (4) This is what they're doing at [this university].

Item 99 (N=7). *That the university defer the maintenance of facilities.*

Against: (7) The deterioration of buildings is beginning to be significant on Western Canadian campuses. This is frequently an area of neglect in times of constraint and we should not allow this to become a major problem as has been experienced by Ivy League universities.

Item 85 (N=12). *That the university reduce budget allocations for secretarial support.*

Against: (2) A major effect is that support staff is reduced, leading to academic staff becoming highly paid secretaries and photocopy operators.

Other: (10) Ours is so low that it can't be cut.

The remarks indicated that despite the general ambiguity of reducing various forms of administrative support, there was some support for reducing the overall number of university administrators.

Factor 3: Reduction in Academic Support

Item 96 (N=12). *That the university reduce travel allowances for faculty members.*

For: (1) Universities are far too liberal in their travel funding policies.

Against: (3) We can't cut any more. It's already less than $250 per faculty [member].

Other: (8) It's already a giggle. We personally support our business travel.

Item 94 (N=6). *That the university reduce budget allocations for graduate student assistantships.*

Against: (4) Somebody has to do the assisting and graduate students are cheap labor.

Other: (2) There is jut not enought money for fellowships or scholarships, and student loans become a burden on the young.

Item 93 (N=4). *That the university reduce budget allocations for instructional supplies.*

For: (1) Only to a necessary minimum.

Against: (1) We don't have enough as it is.

Other: (2) Chalk?

Item 95 (N=9). *That the university reduce budget allocations for faculty members' academic computing.*

For: (1) Research needs to be paid for from elsewhere.

Against: (4) If computing is cut, then the university is basically diminishing one of its fundamental tasks -- research. A university with no research is no university at all.

Other: (4) This depends on current allocations.

Item 92 (N=7). *That the university reduce budget allocations for the purchase of library materials.*

Against: (5) Library resources are poor, dangerously so.

Other: (2) Curb individual ordering. Bulk order across campus.

Item 97 (N=12). *That the university reduce the subsidization of scholarly publications.*

Other: (12) The subsidy for scholarly publications is very minimal.

Item 100 (N=9). *That the university defer the purchase of new equipment.*

For: (2) Our typewriters will last.

Against: (1) [This equipment] should be up-to-date for training purposes.

Other: (6) It depends. Some [equipment] is absolutely necessary. Some is a frill.

The examples disclosed that budget allocations for travel allowances, instructional supplies, subsidization of scholarly publications and library materials are already minimal in the estimation of faculty, and further reductions are seen as inappropriate.

Factor 4: Reduction in Remuneration

Item 51 (N=16). *That the university negotiate a freeze in faculty members' salaries.*

For: (7) I think faculty salaries above a certain level should be frozen except for merit increases, while lower faculty (who are usually younger and need the money more) should get cost of living increases.

Against: (7) I already work a 12 hour six day week for a highly eroded salary.

Other: (2) Okay, if this freeze is equally applied to the entire university community.

Item 52 (N=8). *That the university negotiate a reduction in faculty members'*

salaries.

For: (2) Only if all other avenues have been thoroughly searched first.

Against: (3) It is totally unacceptable to reduce or freeze faculty members' salaries in response to a global budget cut. Instead, we should seek ways and means to inform our governments that there is more "fat" to be trimmed every year. Salary restraint is only a temporary measure that offers no solution, but rather a self-defeating maneuver.

Other: (3) My major concern is that "financial constraint" will be used an excuse to delay pay equity for female academics.

Item 50 (N=13). *That the university increase average faculty teaching workload.*

For: (2) Some departments which teach light loads probably should assume more of the burden.

Against: (7) We are judged on our research. More teaching would adversely affect this.

Other: (4) They have already done so to the limit.

Item 80 (N=16). *That the university cut budgets across-the-board for all departments.*

For: (2) [This measure is] only useful as an initial fat-cutting step. More rational steps are needed thereafter.

Against: (9) Non-selective cuts to all budgets reduce the quality of good programs as well as inhibiting the improvement of mediocre areas. The time has come to do a few things well rather than many things poorly!

Other: (5) At [this university] we've done this for years.

Item 49 (N=17). *That the university abolish tenure for all new faculty members.*

For: (11) Tenure should be dropped for even those with tenure. It would stop people from "retiring" and still holding a job.

Against: (4) You cannot do good work when you have to be continually concerned with personal survival unless you are very unusual.

Other: (2) Universities are slow to discipline those few within their ranks who are not conscientious. How many dismissals of tenured faculty can we recall?

Item 47 (N=10). *That the university fill vacant positions with sessional appointments.*

Against: (4) [This is] exploitation of sessional lecturers.

Other: (6) It depends on the position. For routine lower level teaching of the multitudes this may be required. For real university work sessionals are inappropriate as they don't conduct research.

Item 48 (N=4). *That the university utilize tenure quotas within each department.*

Against: (2) There is more than enough non-productive politics now.

Other: (2) In effect we do this now.

The quotations showed that despite the unacceptability of reduction in remuneration a few faculty believe that a freeze in salary might be acceptable, and that tenure provides academics with too much security.

Factor 5: Lobbying for Legitimacy and Additional Funds

Item 39 (N=3). *That the university utilize publicity campaigns in order to promote the legitimacy of its activities.*

For: (1) Advertising pays.

Against: (2) I am aware of the importance of public perceptions of the university and government support but this should not be undertaken flamboyantly.

Item 70 (N=2). *That the university increase its efforts at fund raising from private benefactors.*

For: (1) This is what some administrators are for.

Against: (1) Too much emphasis is going with fund raising, understandably, which distorts priorities, especially when some fund raising is more successful than others.

Item 71 (N=4). *That the university seek more business and industrial funds for research.*

For: (3) Efforts must be increased to attract more research funding, especially from industries. Universities must attempt to be pioneers in both sciences and technologies. We must prove that we are necessary and relevant to the present and future societies.

Against: (1) Too many strings are inevitably attached.

Item 38 (N=5). *That the university support groups (e.g., alumni) to lobby various constituencies on behalf of the university.*

For: (5) Very much overlooked as a source of income are alumni.

Item 36 (N=9). *That the university lobby government for more favorable funding arrangements.*

For: (3) Government must be convinced that education is a very important concern.

Against: (2) Realistically, I see no way that government can increase the direct funding to universities in any significant amount. The alternative sources must therefore be exploited. These include industry, alumni, foundations, fees for services and contracts not now charged for.

Other: (4) No increase of funding is to be expected without increased accountability. No public sympathy is to be expected without accountability to the public.

Item 72 (N=9). *That the university increase its efforts to obtain funding for the overhead cost of research.*

For: (2) The current overhead is killing us.

Against: (1) From whom? Not the researcher.

Other: (6) From whom? Certain agencies would not be able to afford this.

Item 73 (N=1). *That the university incorporate companies to market products which it develops.*

For: (1) The university has to be run as an enterprise.

The examples revealed that despite the desirability of the university undertaking increased lobbying efforts some faculty were pessimistic about whether such efforts can actually attract additional financial support. Furthermore, the comments suggested that some faculty were apprehensive about academic priorities being distorted through conditions attached to such additional financial support.

Factor 6: Development and Expansion of Programs

Item 63 (N=13). *That the university develop new programs in high-demand areas.*

Against: (3) No. The University should not be a slave to fashion nor a training ground for jobs.

Other: (10) Program changes do not affect costs much unless they are associated with changes in overall student numbers. Usually new programs gain students by decreases in other programs.

Item 64 (N=7). *That the university expand current programs in high-demand areas.*

Against: (3) I deplore attempts to deal with constraint by identifying and supporting popular programs.

Other: (4) [These programs are acceptable] provided that they are appropriate for the institution and that existing programs are not bashed.

Item 66 (N=13). *That the university undertake more programs in cooperation*

with business and industry.

For: (4) The university must somehow work with industry to share equipment that is state-of-the-art. By the time we budget, receive approval, place bids and receive delivery, the equipment is no longer state-of-the-art.

Against: (3) I am distrustful of close ties with corporate industry and especially anything connected with the military-industrial complex.

Other: (6) Industrial cooperation is okay to a certain point but many research areas relating to health, environment, land degradation, etc. are not conducive to industrial cooperation.

Item 40 (N=11). *That the university align its programs more closely with Canada's manpower needs.*

Against: (11) Nobody knows what Canada's needs are, least of all the business community.

These comments indicated that some faculty members' misgivings about the development and expansion of programs in a time of financial constraint centered on the possible disruption of existing programs. Similarly, some hesitations concerning expanded university cooperation with business and industry focused on the possible loss of academic autonomy. The comments also revealed a mistrust of projected national manpower needs.

Factor 7: Student Fees and Services

Item 90 (N=8). *That the university require student housing to become self-supporting.*

For: (1) We should never be seen to be in conflict of interest with the community in which we live. Hence food services should be at market value. If food, accommodation, etc. can be provided more cheaply and acceptably by the community, it should be so. We should never subsidize those things.

Other: (7) It is [self-supporting], I believe.

Item 74 (N=6). *That the university increase tuition charges.*

For: (2) Within reason. [This university] is among the lowest in North America.

Against: (3) [This province] is already discriminatory.

Other: (1) The proportion of fess paid by students is low. A system of repayable loans would be better.

Item 75 (N=6). *That the university increase fee charges for student computing.*

Against: (3) This is a university service. We can't penalize students for having particular interests. Do we want to charge students who use the library?

Other: (3) [This option] needs more information.

Item 89 (N=11). *That the university require food services to become self-supporting.*

Other: (11) I believe they already are [self-supporting].

Item 91 (N=7). *That the university reduce budget allocations for student health services.*

For: (2) Why do we have a hospital? We should not duplicate health care.

Against: (1) [There is] rarely any fat here.

Other: (4) There is probably a cheaper way to provide this service but it is needed on campus.

The citations intimated that student housing and food services are already operated on a self-supporting basis at some universities. The comments indicated as well that faculty were not intent on unfairly shifting the cost of financial constraint onto students.

Factor 8: Involvement of Faculty Members

Item 33 (N=6). *That the university involve faculty members in the formation of responses to financial constraint.*

For: (6) The faculty has never been consulted, never been brought into the picture, and the need for drastic financial sacrifices has never been proven.

Item 35 (N=6). *That the university establish a task force to identify various responses to financial constraint.*

Against: (2) Not another committee!

Other: (4) [This measure] has been done.

Item 34 (N=8). *That the university review its mission as a preliminary step to taking action to deal with financial constraint.*

For: (3) I believe question 34 is key and suspect you will find that it is the last a university will address because it is the most threatening. The university is not the administration.

Against: (2) This is a "motherhood" matter. The university has only one mission. [This measure is] unacceptable because [it is] a waste of time.

Other: (3) [This measure is] already done.

The quotations implied that some faculty members were strongly in favor of faculty involvement in the formation of responses to financial constraint. Although some universities appear to have taken steps in this direction, some faculty members would clearly find greater efforts highly desirable.

Factor 9: Voluntary Alternatives to Dismissal

Item 42 (N=7). *That the university provide incentives for changing the full-time employment of tenured faculty members to part-time employment*

For: (3) [Acceptable] in some special cases.

Against: (1) A nice idea, but not while there is a large enrollment. Instructors have heavy loads. Who will pick up the slack? Those who remain behind.

Other: (3) Roadblocks should not be put in the way of tenured faculty who choose this option. Does this assume they retain tenure, or that they could reverse their decision?

Item 45 (N=1). *That the university provide incentives for faculty members to undertake voluntary career changes outside the university.*

Other: (1) I am uncertain where the initiative [for changing careers] should rest.

Item 43 (N=3). *That the university liberalize arrangements for voluntary leave without pay.*

For: (1) [Acceptable] if they [faculty on leave] are replaced.

Against: (2) [These are] ad hoc arrangements only. Programs are too easily destroyed by absence of regular faculty.

Item 41 (N=8). *That the university provide incentives for the early retirement of faculty members.*

For: (4) This is a good way to pare "uninterested" faculty and allow for their substitution by young faculty, who are sorely needed.

Against: (1) Why throw out wisdom?

Other: (3) [Acceptable] only if senior, highly paid faculty are replaced by junior faculty.

Item 44 (N=9). *That the university provide incentives for the retraining of faculty members for high-demand areas within the university.*

Against: (7) Who knows what high-demand areas are? Many computing grads can't get jobs. That was high-demand a few years ago.

Other: (2) [Acceptable] only if they [faculty to be retrained] are redundant.

The remarks suggested that some reservations which faculty members have regarding voluntary alternatives to dismissal hinge on whether sufficient numbers of regular faculty will be available after such alternatives have been implemented.

Factor 10: Conservation Measures

Item 79 (N=8). *That the university utilize utility conservation measures (e.g., telephones).*

Other: (8)	We have cut out every spare phone. Cut more and we can't communicate, which is part of our job. Why not negotiate special low rates with the local utilities?

Item 78 (N=9). *That the university utilize energy conservation measures (e.g., electricity).*

For: (4)	Not to the detriment of programs, just for careful management.
Other: (5)	We are already stumbling around in the dark.

The comments showed an absence of opposition to conservation measures for the sake of careful management, and that such measures have already been implemented.

D. SUMMARY

This chapter has reported a content analysis of open-ended comments in the returned questionnaires. These open-ended comments have provided descriptive data supplementing the statistical findings of Chapter IV. These comments illustrated, in the respondents own words, the range and intensity of faculty members' opinions regarding the perceived impact of financial constraint and the acceptability of various means of dealing with financial constraint.

The content analysis was limited insofar as the number of respondents providing written comments did not permit the comments to be considered representative of the entire

sample of interest. Nevertheless, these comments did offer insights into the reactions and responses of faculty members to the dynamics associated with financial constraint. Collectively, they furnished a vivid portrayal of some of faculty members' concerns in a time of financial constraint.

Generally, the written comments were compatible with the statistical findings. Where, in some instances, there were tendencies in the written comments which were apparently not consistent with the statistical findings, this discrepancy can be accounted for, first of all, by the relatively low frequency of written comments on a given item in comparison with the higher frequency of statistical responses. In a sense, those respondents providing written comments constituted a biased subsample. Second, this discrepancy can be accounted for by the tendency on occasion for respondents who favor a position contrary to the average position of the entire sample to verbalize their unpopular views.

For example, item 49 -- *that the university abolish tenure for all new faculty members* -- constitutes a case in point. The statistical finding (N=457) indicated that respondents generally regard this option as unacceptable (M=1.77). The open-ended comments, however, (N=17) appear to be inconsistent with the statistical findings: 11 comments were identified in favor of the option; four comments opposed the option; and two comments were classified as "other." The comments here clearly constituted an instance of respondents favoring a position contrary to the average position, and making a case for their unpopular views. The higher frequency of respondents in the statistical response (N=457) compared to the lower frequency (N=17) of written comments clearly indicates that the written comments constitute a biased subsample.

The written comments, furthermore, suggested new insights which, although tentative, provide points of possible further investigation. First, with regard to the perceived impact of financial constraint, the comments supported the following generalizations: (1) Faculty considered that financial constraint either was a serious concern or had the potential to become a significant problem. (2) Faculty anticipated that financial constraint would likely remain a feature of the university situation for the foreseeable future. Some faculty

identified existing government priorities as a cause of financial constraint at universities. Some faculty were conscious of the variability which such priorities can undergo during a provincial election year. (3) Faculty considered that financial constraint had had a detrimental effect on the quality of instruction they could provide. Some faculty associated a decline in the quality of instruction with an increase in class size or teaching load, and a corresponding decrease in time available for individual students. (4) Faculty perceived that financial constraint had exercised a detrimental effect on their morale. (5) Some faculty appeared bitter about the effect of financial constraint on their socio-economic status, whereas others seemed unconcerned. (6) Faculty gave little indication that financial constraint had affected the achievement of their career aspirations. (7) Some faculty perceived that the initial effects of financial constraint were beneficial, and others considered its effects as harmful. (8) Faculty tended to view financial constraint as diminishing their opportunities for conducting research. Some faculty associated a decrease in research productivity with increased teaching load. (9) Faculty exhibited no consensus regarding the effect of financial constraint on their voluntary service activities. For some faculty, voluntary service activities may provide an alternative avenue toward promotion, or act as a vehicle of political expression within the university. (10) Some faculty reported that financial constraint had had the effect of increasing their contract work.

Second, with regard to the acceptability of the 10 types of measures for dealing with financial constraint, the comments suggested the following: (1) Although program reduction is likely to be a controversial manner of dealing with financial constraint, the acceptability of program reduction was highly situational. Some faculty might be prepared to acquiesce in the process of program reduction if faculty members and not just administrators were involved in the development of suitable procedures and criteria. (2) Some faculty had no reservations about reducing the number of administrators. (3) In the estimation of some faculty, budget allocations for travel allowances, instructional supplies, subsidization of scholarly publications, and library materials were already minimal. (4) A few faculty members believed that a freeze in salary might be acceptable, and that tenure provides academics with too much

security. (5) Despite the desirability of the university undertaking increased lobbying efforts, some faculty were pessimistic about whether such efforts could actually attract additional financial support. Some faculty were apprehensive about academic priorities being distorted through conditions attached to such additional financial support. (6) Some faculty members' misgivings about the development and expansion of programs in a time of financial constraint centered on the possible disruption of existing programs. Likewise, some hesitations concerning expanded university cooperation with business and industry focused on the possible loss of academic autonomy. (7) Student housing and food services are already operated on a self-supporting basis at some universities. Faculty were not intent on unfairly shifting the cost of financial constraint onto students. (8) Some faculty were strongly in favor of faculty involvement in the formation of responses to financial constraint. Although some universities have taken steps in this direction, some faculty clearly found greater efforts highly desirable. (9) Some reservations which faculty members have concerning voluntary alternatives to dismissal hinged on whether sufficient numbers of regular faculty will be available after such alternatives have been implemented. (10) There was an absence of opposition to conservation measures undertaken for the sake of careful management. Such conservation measures have already been implemented at some universities.

More than anything else, the written comments bore witness to the depth of feeling associated with the issues surrounding financial constraint at universities. Respondents revealed themselves as intense and passionate, expressing feelings of dissapointment, anger, apprehension and determination. Faculty members' own words left little doubt that financial constraint does constitute a matter of lively concern for them. Moreover, faculty members' own words also bore witness to the controversial and political nature of financial constraint and the measures which might be adopted to deal with it. On nearly any aspect of financial constraint, there existed a range of opinion with strong convictions opposed to one another. The comments indicated that any solutions to financial constraint must be capable of resolving conflicting claims and interests.

Chapter VI

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

This final chapter presents the following: (1) a summary of the study -- its purpose, conceptual bases and methodology; (2) a summary of the findings: (3) a discussion of the findings; (4) conclusions drawn from the findings; (5) implications for research and practice; and (6) a concluding comment.

A. SUMMARY OF THE STUDY

This section reviews the study's purpose, conceptual bases, and design and methodology.

Purpose of the Study

The purpose of this study was to identify the perceptions and preferences of faculty members with regard to financial constraint at their respective universities in Western Canada. This general purpose gave rise to five research questions:

1. How do faculty members perceive the impact of financial constraint at their respective universities?
2. Does the perceived impact of financial constraint vary by selected demographic characteristics?
3. What measures for dealing with financial constraint do faculty member consider acceptable in principle?
4. Does the acceptability in principle of measures for dealing with financial constraint vary by selected demographic characteristics?
5. What relationship, if any, exists for faculty members between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint?

Conceptual Bases

This study's investigation of faculty members' perceptions of the impact of financial constraint at their universities and of faculty members' preferences regarding potential institutional responses to financial constraint was situated within the context of the micropolitics of educational organizations. Essentially, the study consisted of an articulation of faculty interests in the matter of financial constraint at universities. Within this micropolitical perspective, it was assumed that faculty members, along with boards of governors, university administrators, and students, constitute contending interest groups with divergent interests regarding institutional responses to financial constraint. The explicit characterization of faculty members' interests was left to emerge heuristically from the nature of financial constraint itself.

Of late it has become increasingly evident that the affluent period of university expansion that began in Canada in the 1950s has come to an end. There is less pervasive confidence (on the part of government policy makers, who substantially fund university operations, if not on the part of the public at large) in the value of public investment in higher education. Universities are not immune to the effects of social and economic circumstances that affect society. In consequence, a tendency has arisen on the part of government to restrict growth in the funding of universities, a tendency which was accelerated by the economic downturn of the early 1980s. This set of circumstances calls into question the social functions of the universities, their recognized roles in teaching, research, and public service. With the assumption of unimpaired university growth no longer tenable, it becomes necessary for universities to adapt their functions to an era of relative resource scarcity.

In the study of organizations, the topics of organizational decline and cutback management are of relatively recent origin. They grew out of the efforts of organizational theorists to contend with difficulties confronting organizations in an era of relative resource scarcity, an era in which it is no longer easily possible to assume unrestricted organizational expansion. Organizational decline can be understood as organizational adaptation in face of an insufficiency of available resources, and cutback management can be interpreted as

directing the course of organizational adaptation toward lower levels of resource consumption and organizational activity.

The topics of organizational decline and cutback management are of relevance to institutions of higher education. In varying degrees, many colleges and universities have experienced and are experiencing the conditions of decline. In the American setting, these conditions typically assume the form of retrenchment, a combination of financial constraint and enrollment decline, which together necessitate an adaptation of an institution's operations. On the Canadian scene, however, related but distinct conditions prevail. At the time that the survey for this study was conducted, the universities of Western Canada were confronted with financial constraint under circumstances of stable or increasing enrollment, a situation which to some extent weighed against a potentially viable expendient in the American setting, that of increasing enrollments.

Potential institutional responses to financial constraint in universities, the counterpart to cutback management in public organizations, can be grouped into three broad categories: (1) cutbacks and reallocations; (2) program innovations and expansion; and (3) process measures. The first and third of these categories focus on institutional adaptations largely internal to the university, whereas the second centers on the university's external environment and on the opportunities it affords to gain additional financial resources and public support.

Even though writers dealing with responses to organizational decline and writers considering alternatives for dealing with retrenchment approach these topics from a predominantly managerial perspective, Powell as well as Dallam and Hoyt provide precedents for approaching the matter of financial constraint at universities from the viewpoint of faculty members. By means of Powell's construct of the perceived impact of financial constraint on the professional lives of academics and Dallam and Hoyt's construct of faculty members' preferences for measures to deal with retrenchment, this study illuminates the interests of faculty members in the matter of financial constraint at universities.

Lastly, it was acknowledged that this investigation is confined to the examination of the perceptions of only one interest group at universities, namely, faculty members. A more

comprehensive examination would include an account of the perceptions of other interest groups at universities such as members of boards of governors, administrators, students, and non-academic personnel.

Design and Methodology

The study's design was that of survey research. Data were collected by means of a specially designed four-part questionnaire, which was pilot-tested and then administered in January of 1986 to a 10% random stratified sample, drawn from a population of approximately 10,000 full-time faculty members at 11 universities in Western Canada. Four hundred fifty-seven usable questionnaires were returned for an overall return rate of 48.8%. The sample was representative of the population with regard to distribution by university, province, and size of university. Quantitative data were analyzed through a variety of statistical procedures including calculation of means and standard deviations, as well as *t* tests, one-way analysis of variance, factor analysis, Pearson correlation coefficients and multiple regression analysis. Open-ended comments were subjected to content analysis.

B. SUMMARY OF THE FINDINGS

In this section, the findings are recapitulated under the headings of (1) the perceived impact of financial constraint, (2) the acceptability in principle of measures for dealing with financial constraint, (3) the relationship between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint, and (4) the illustration of the range of opinion.

Perceived Impact of Financial Constraint

Faculty viewed financial constraint as a significant problem at their respective universities, a problem that would last for at least another three years. Faculty did not agree that government would probably increase the funding of their universities in real terms next year. Faculty perceived that the impact of financial constraint on the quality of instruction at

their universities was negative, as was its impact on their morale, their socio-economic status, and the achievement of their career aspirations. Globally, faculty considered the impact of financial constraint at their universities as negative. Moreover, faculty perceived that the impact of financial constraint was to decrease research productivity at their universities, to decrease their voluntary service activities, and to increase their contract work.

The perceived impact of financial constraint was found to vary little by discipline area, highest academic degree, tenure status, administrative status, size of university, membership in faculty association/union, or sex. The perceived impact of financial constraint was found to vary somewhat by academic rank and by age. However, the perceived impact of financial constraint varied considerably by university and by province. The University of British Columbia reported the most severe impact of financial constraint, whereas the University of Alberta reported significantly less negative impact. The province of British Columbia emerged as perceiving the most negative impact of financial constraint, whereas the province of Alberta perceived significantly less negative impact. Lastly, the perceived impact of financial constraint was consistently more extreme on faculty in general than on respondents as individuals.

Acceptability in Principle of Measures for Dealing With Financial Constraint

Of the 68 measures for dealing with financial constraint included in the questionnaire, 40 were identified as acceptable or tending to be acceptable in principle. Twenty-eight were identified as unacceptable or tending to be unacceptable in principle.

Of the 40 measures identified as acceptable or tending to be acceptable, 31 were substantive measures and nine were process measures. Of the 31 substantive measures seven were related to lobbying for additional funds and the promotion of the legitimacy of the university's activities. Eight of the substantive measures were associated with program reduction or expansion. Five were voluntary alternatives to dismissal, and five referred to students. Three were related to reductions in administrative staff, and two were conservation measures.

Of the 28 measures identified as unacceptable or tending to be unacceptable, 26 were substantive measures and two were process measures. Twelve of these substantive measures were associated with the dismissal of personnel, a change in faculty working conditions, or the non-filling of vacant positions. Five referred to reductions in resources provided to faculty. Three concerned with students, and three regarded reductions in expenditure for grounds, new equipments and facilities.

For the purpose of data reduction, a varimax factor analysis was conducted of the 68 measures for dealing with financial constraint contained in the questionnaire. Ten factors were identified. Faculty members tended to consider as acceptable "lobbying for legitimacy and additional funds," "involvement of faculty members," "conservation measures," "voluntary alternatives to dismissal," the "development and expansion of programs," and "reduction in programs." Faculty also tended to consider as neutral or uncertain "student fees and services" and "reduction in administrative support." Moreover, faculty were inclined to judge "reduction in academic support" and "reduction in remuneration" as unacceptable.

The identification of group differences with regard to the acceptability in principle of measures for dealing with financial constraint was based on the factor analysis of the 68 measures for dealing with financial constraint. Only a few of the factor scores were significantly related statistically to academic rank, highest academic degree, tenure status, administrative status, university, size of university, membership in faculty association/union, age, or sex. However, more variation was found by discipline area and province.

Relationship Between the Perceived Impact of Financial Constraint and the Acceptability in Principle of Measures for Dealing With Financial Constraint

A weak relationship was identified between the 21 variables measuring the perceived impact of financial constraint and the 10 factors measuring the acceptability in principle of measures for dealing with financial constraint. Three of the 10 factors revealed a persistent pattern of correlations, but the correlation coefficients were low. The perceived impact of financial constraint was related to the acceptability of "reduction in remuneration," to the

acceptability of "involvement of faculty members," and the acceptability of "lobbying for legitimacy and additional funds." Moreover, efforts to related the perceived impact of financial constraint to the acceptability in principle of measures for dealing with financial constraint through a regression relationship yielded no strong predictive power. In brief, the perceived impact of financial constraint was only weakly related to the acceptability in principle of measures for dealing with financial constraint.

Illustration of the Range of Opinion

The results of a content analysis of open-ended comments were reported to supplement the foregoing statistical findings. These comments illustrated, in the respondents' own words, the range of faculty members' opinions regarding the impact of financial constraint and the acceptability of various means of dealing with financial constraint. Generally, the written comments were compatible with the statistical findings.

These written comments suggested new insights. First, with regard to the impact of financial constraint, the comments supported the following tentative generalizations: (1) Faculty considered that financial constraint either was a serious concern or had the potential to become a significant problem. (2) Faculty anticipated that financial constraint would likely remain a feature of the university situation for the foreseeable future. Some faculty identified existing government priorities as a cause of financial constraint at universities, and some were conscious of the variability which such priorities can undergo during a provincial election year. (3) Faculty considered that financial constraint had had a deterimental effect on the quality of instruction they could provide. Some faculty associated a decline in the quality of instruction with an increase in class size or teaching load, and a corresponding decrease in time available for individual students. (4) Faculty perceived that financial constraint had exercised a detrimental effect on their morale. (5) Some faculty appeared bitter about the effect of financial constraint on their socio-economic status, whereas others seemed unconcerned. (6) Faculty gave little indication that financial constraint had affected the achievement of their career aspirations. (7) Some faculty perceived that the initial effects

of financial constraint were beneficial, and others considered its effects as harmful. (8) Faculty tended to view financial constraint as diminishing their opportunities for conducting research. Some faculty associated a decrease in research productivity with increased teaching load. (9) Faculty exhibited no consensus regarding the effect of financial constraint on their voluntary service activities. For some faculty, voluntary service activities may provide an alternative avenue toward promotion, or act as a vehicle of political expression within the university. (10) Some faculty reported that financial constraint had had the effect of increasing their contract work.

Second, with regard to the acceptability of the 10 types of measures for dealing with financial constraint, the comments suggested the following: (1) Although program reduction is likely to be a controversial manner of dealing with financial constraint, the acceptability of program reduction was highly situational. Some faculty might be prepared to acquiesce in the process of program reduction if faculty members and not just administrators were involved in the development of suitable procedures and criteria. (2) Some faculty had no reservations about reducing the number of administrators. (3) In the estimation of some faculty, budget allocations for travel allowances, instructional supplies, subsidization of scholarly publications, and library materials were already minimal. (4) A few faculty members believed that a freeze in salary might be acceptable, and that tenure provides academics with too much security. (5) Despite the desirability of the university undertaking increased lobbying efforts, some faculty were pessimistic about whether such efforts can actually attract additional financial support. Some faculty were apprehensive about academic priorities being distorted through conditions attached to such additional financial support. (6) Some faculty members' misgivings about the development and expansion of programs in a time of financial constraint centered on the possible disruption of existing programs. Likewise, some hesitations concerning expanded university cooperation with business and industry focused on the possible loss of academic autonomy. (7) Student housing and food services are already operated on a self-supporting basis at some universities. Faculty were not intent on unfairly shifting the cost of financial constraint onto students. (8) Some faculty were strongly in favor of faculty

involvement in the formation of responses to financial constraint. Although some universities have taken steps in this direction, some faculty would clearly find greater efforts highly desirable. (9) Some reservations which faculty members have concerning voluntary alternatives to dismissal hinged on whether sufficient numbers of regular faculty would be available after such alternatives have been implemented. (10) There was an absence of opposition to conservation measures undertaken for the sake of careful management. Such measures have already been implemented at some universities.

In short, on nearly any measure to deal with financial constraint, there existed a range of opinion about its suitability. The comments revealed that solutions to financial constraint must be capable of resolving conflicting claims and interests.

C. DISCUSSION OF FINDINGS

In this section, the findings of the study are discussed under the headings of (1) the perceived impact of financial constraint, (2) the acceptability in principle of measures for dealing with financial constraint, and (3) the relationship between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint.

Perceived Impact of Financial Constraint

The results of this research are roughly comparable in several respects with Powell's (1981) findings concerning faculty members' perceptions of the impact of financial constraint and enrollment decline at three Australian institutions. This investigation's perceptions of a negative impact of the quality of instruction which faculty members are able to provide coincided with Powell's findings relating to perceptions of increased teaching workload. Likewise, this study's results reflecting a negative impact on morale and on the achievement of career aspirations corresponded broadly to Powell's findings regarding decreased morale and diminished prospects for career advancement. This inquiry's finding of faculty members' negative global assessment of the impact of financial constraint also matched Powell's finding

of a general dissatisfaction among faculty with regard to their institutions' responses to conditions of retrenchment.

On several points, however, this study's results diverged from those of Powell's. Whereas Powell was able to conclude that the Australian academics in his study were not seriously affected by retrenchment circumstances, the perceptions expressed by Canadian faculty in this research indicated that faculty members definitely viewed financial constraint as a serious problem. Furthermore, the faculty in this Canadian study reported a more negative perception of the impact of financial constraint on research than did faculty in the Australian study. Perhaps these differences can be explained in part by noting that the Canadian perceptions were collected at a later time, assuming that the trend among Western nations toward restraint in funding of universities was less pronounced in the early 1980s. Moreover, whereas Powell observed that academics at different institutions tended to perceive the impact of retrenchment in a similar manner, this investigation's results indicated that perceptions of the impact of financial constraint did indeed vary on the basis of province and university. This difference might be explained in part by the fact that in Australia universities are coordinated by the federal government rather than by provincial governments as in Canada, and that therefore the extent of financial constraint might be more variable in Canada than in Australia.

The perceived impact of financial constraint measured by Part II of the instrument used in this study is remarkably stable across most demographic categories. There were few group differences with regard to the perceived impact of financial constraint at universities. A weak pattern of variation was found, however, to be associated with group differences based on academic rank and age. A more persistent pattern of variation was found associated with the categories of university and province.

These patterns of group differences suggest that the phenomenon of financial constraint itself varies from university to university and from province to province. Faculty members' perceptions of the impact of financial constraint on their respective universities are thus reflections of the unique combination of measures implemented at each institution in

order to deal with a shortfall of resources. Likewise, faculty members' perceptions of the impact of financial constraint indirectly reflect the means employed by provincial governments to utilize scarce resources. Thus, financial constraint appears to relate more to location than to other demographic categories.

The validity of Part II of the instrument used in this study to measure the perceived impact of financial constraint was confirmed by its ability to discriminate between the severity of financial constraint in the provinces of British Columbia and Alberta in January of 1986. As anticipated in light of British Columbia's notorious cutback policies and Alberta's relative prosperity, the perceived impact of financial constraint in British Columbia was more severe.

With regard to the persistent difference in the perceived impact of financial constraint on faculty members in general and on individual respondents, the practical significance of this finding should not be overestimated. Despite the pattern of statistically significant differences, in not one case do these differences actually indicate a change in the direction of the perceived impact of financial constraint. Moreover, further observation reveals (See Appendix D, Table 7.10) that within each pair of matched statements a moderate and statistically significant positive correlation exists. In short, despite the pattern of statistically significant differences, there was a substantial congruence between what respondents perceived as the impact of financial constraint on faculty members in general and on individual respondents.

Acceptability in Principle of Measures for Dealing With Financial Constraint

Overall, Cameron's (1983), Doyle's (1980) and Berger's (1983a) alternatives to outright reductions and cutbacks faired well in regard to acceptability in principle. To the extent that their categories of innovation and expansion as well as process measures were operationalized in this study, they met with a moderately high degree of acceptance to faculty members. (See Table 4.14.)

Cameron's (1983) categories of domain defense, domain offense and domain creation included substantive measures which generally tended to be acceptable to faculty members.

Under the heading of domain defense, four measures (36, 38, 72, 39) tended to be very acceptable, one measure (37) acceptable, and one measure (40) unacceptable. With regard to domain offense, three measures (70, 71, 65) tended to be very acceptable, four measures (64, 66, 68, 74) tended to be acceptable, and one measure (76) tended to be unacceptable. Relating to domain creation, three measures (67, 63, 73) tended to be acceptable.

If the measures are approached in terms of Doyle's (1980) five categories of innovation, they included substantive measures which were generally acceptable except with regard to those measures affecting institutional productivity. Concerning the development of new courses and programs, four measures (65, 64, 63, 66) tended to be acceptable, although one measure (40) tended to be unacceptable. Relating to the improvement of institutional productivity, seven measures (53, 83, 54, 46, 48, 50, 94) tended to be unacceptable and one measure (49) tended to be very unacceptable. With reference to new sources of students, one measure (68) tended to be acceptable. Regarding new sources of income, four measures (36, 70, 72, 71) tended to be very acceptable, one (74) acceptable, and two (75, 76) unacceptable. Finally, under the rubric of reorganization, one measure (67) tended to be very acceptable, and three measures (62, 60, 61) tended to be acceptable.

Of the 11 process measures included in Part III of the questionnaire, only two (56, 80) tended to be unacceptable. Of the remaining nine measures, three (33, 58, 55) tended to be rated as very acceptable, and six (35, 34, 59, 81, 82, 57) tended to be rated as acceptable.

A straightforward comparison of this study's results regarding the acceptability of measures with the findings of Dallam and Hoyt (1983) is not possible. Whereas Dallam and Hoyt (1983, p. 414) included only 15 university-wide options in their instrument, this study provided a more comprehensive 68 options to be rated by faculty members. Furthermore, there is a lack of one-to-one correspondence between the options in the two studies, which would furnish a basis for direct comparison. Consequently, a comparison between this study's results and Dallam and Hoyt's findings must be confined to a thematic approach. In these terms, the findings of the two studies are roughly comparable.

Dallam and Hoyt reported that acceptable options included such actions as increasing extramural funding, increasing enrollment, reducing the number of administrative staff, reducing student services, and encouraging faculty leaves without pay. Unacceptable options encompassed such measures as not filling more than one-half of vacant positions, and reducing library services and staff.

This investigation also found support for increasing extramural funding. Four measures (36, 70, 72, 71) in this category were rated as very acceptable. Dallam and Hoyt's research included six options, largely acceptable, directed toward increasing or sustaining enrollment ("increase credit hour load"; "improve student advising"; "improve quality of teaching through faculty development"; "increase off-campus offerings"; "create new courses for non-majors"; "popularize existing courses to increase appeal to students"), which would have had less relevance in the Canadian situation of high enrollment. In this study, item 68 -- *that the university recruit students in discipline areas in which its enrollment is below capacity* -- tended to be acceptable. If, however, program expansion is considered a counterpart to increasing enrollment, then this inquiry identified equivalent support. Four measures (65, 64, 63, 66) in the category of program expansion tended to be acceptable. With regard to the acceptability of reductions in administrative staff, this research obtained corroborating results. Three measures (84, 87, 86) tended to be rated as acceptable. Concerning the acceptability of reductions in student services, this inquiry provided partial confirmation of Dallam and Hoyt's findings. Two measures (89, 90) tended to be acceptable, although another two measures (88, 91) tended to be unacceptable. Relating to the acceptability of faculty leaves without pay, this exploration's results matched those of Dallam and Hoyt with one measure (43), rated as very acceptable. To Dallam and Hoyt's finding of non-acceptability regarding the option of not filling more than one-half of vacant positions, corresponded this investigation's findings of two unacceptable measures (46, 47). Finally, concerning the reduction of library services and staff, this study identified the most unacceptable of all 68 options, item 92 -- *that the university reduce budget allocations for the purchase of library materials.*

The findings of this research with regard to the acceptability in principle of measures for dealing with financial constraint suggest that a gradation of faculty member preferences exists. This continuum is in part consistent with what Dallam and Hoyt (1983, p. 420) termed "self-serving motivations." With regard to substantive measures to deal with financial constraint, faculty members preferred institutional responses to financial constraint that do not directly affect them. Thus in descending order faculty members tended to prefer "lobbying for legitimacy and additional funds," "conservation measures," "voluntary alternatives to dismissal," the "development and expansion of programs," "student fees and services," "reduction in administrative support," "reduction in academic support," and "reduction in remuneration."

In part, however, the findings of this inquiry did not coincide simply with "self-serving motivations." Faculty members also tended to consider acceptable "involvement of faculty members" and "reduction in programs." A close scrutiny of the items constituting these factors reveals first that "involvement of faculty members" consisted of three process measures (33, 35, 34). Similarly, "reduction in programs" consisted of 11 items, of which six (57, 82, 81, 55, 59, 58) were process measures. In addition to the tendency of faculty members to prefer measures for dealing with financial constraint that do not directly affect them, there existed a tendency for faculty members to consider as acceptable both measures which deal with their involvement in developing responses to financial constraint and measures which deal with the development of procedures and guidelines pertaining to program discontinuance and personnel dismissal. Faculty members indicated that they are anxious to participate in the design of institutional processes to deal with financial constraint, something which can be viewed as a legitimate codetermination of matters affecting their vital interests rather than as simply "self-serving motivations."

This research corroborated the findings of Dallam and Hoyt (1983, p. 412; pp. 416-417) that the acceptability of measures varied little between departmental heads and regular faculty, and between tenured and untenured faculty. Few group differences were identified on the basis of either administrative or tenure status. Furthermore, this study

extended the investigation of possible group differences regarding acceptability to encompass other demographic characteristics, namely, discipline area, academic rank, highest academic degree, university, size of university, province, membership in faculty association/union, age, and sex. Apart from group differences associated with discipline area and province, it appears that faculty members' preferences regarding institutional responses to financial constraint were generally unrelated to the demographic characteristics examined in this study.

Group differences associated with discipline area and province were, nonetheless, identified in this investigation with regard to the acceptability in principle of measures for dealing with financial constraint. These results suggest that the acceptability of measures is to some extent a function of the unique situation of each discipline area and the unique situation of each province. Insofar as the preferences of faculty members are of concern in the development of institutional responses for dealing with financial constraint, these findings imply that scope be allowed by university administrators and boards of governors for variation in the measures adopted on the basis of discipline area and province.

Relationship Between the Perceived Impact of Financial Constraint and the Acceptability in Principle of Measures for Dealing With Financial Constraint

Some consideration must be directed to the hypothesized relationship between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint, a relationship which was only weakly supported by the findings of this study. The hypothesis that the acceptability of measures is related to the perceived seriousness of financial constraint was developed on the basis of findings put forth by Dallam and Hoyt (1983, pp. 416-417). Those findings indicated that declining student enrollment increased the acceptability of institutional responses to retrenchment conditions. The hypothesis was also supported by Levine's (1979, p. 181) account of the "tooth fairy syndrome," which describes the reluctance of organizational participants to accept any cutbacks in the initial stages of contraction in the belief that the need for contraction will somehow disappear. The hypothesis offered the opportunity to identify a possible

determinant of the acceptability of institutional responses to financial constraint in a situation not characterized by declining student enrollment.

Reflection upon the lack of support in this study's findings for the hypothesized relationship evokes an alternative conceptualization. The two constructs -- the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint -- are conceptually unrelated. The perceived impact of financial constraint as operationalized in this study measured the perceived effects of institutional responses already implemented to deal with financial constraint. There exists, however, no evident conceptual link between the perceived effect of measures already implemented on the one hand, and the acceptability in principle of measures for dealing with financial constraint on the other.

It is conceivable that faculty in different universities might have somewhat distinctive experiences of the impact of financial constraint arising from their subjective reactions to the particular constellation of restraint measures implemented there. Similarly, it is conceivable that faculty in different provinces might have somewhat varying experiences of the severity of financial constraint, given that provincial treasuries allocate the bulk of universities' operational funds in Canada. Even, however, if the impact of financial constraint on each university were identical, by virtue perhaps of some national coordinating agency, it would still be possible for faculty to espouse divergent preferences as to the most advantageous institutional responses. Such preferences, it appears, are influenced by factors associated with discipline areas, perhaps varying aspirations for what the university should become. Such preferences are also influenced by factors associated with province, although what factors these might be remains unclear. They might reflect differing views of the university's goals in each province.

The acknowledgement of the lack of an evident conceptual link between the perceived impact of financial constraint and the acceptability in principle of measures for dealing with financial constraint dissolves an apparent anomaly pertaining to group differences. In the case of the perceived impact of financial constraint, group differences were identified on the

basis of university and province, whereas in the case of the acceptability of measures group differences were detected on the basis of discipline area and province. The apparent anomaly disappears if it is assumed that the two constructs are unrelated, and that consequently the factors underlying the group differences on each construct are distinct.

Insofar as it is appropriate to search for factors associated with the acceptability of institutional responses to faculty members, an alternate hypothesis is put forward for investigation. That hypothesis is that the acceptability in principle of measures for dealing with financial constraint is related to the perceived need for developing measures to deal with financial constraint. One element of an index of perceived need for such measures would be agreement on institutional mission, which research by Parker (1986) has shown to be related to the selection of institutional responses.

D. CONCLUSIONS

The following generalizations encapsulate the conclusions reached in this research.

1. Faculty members consider financial constraint at their universities a grave and likely enduring hindrance.
2. Faculty's acceptance in principle of measures to deal with financial constraint at their universities increases as the impact of those measures falls further from faculty members' professional work activities.
3. Faculty's preferences for resolving the matter of financial constraint include their own participation in the generation of institutional responses as well as the development of clear guidelines pertaining to program discontinuance and the dismissal of academic personnel.

Within the context of the micropolitics of educational organizations, the findings of this study provide a clear profile of faculty members' interests in the matter of financial constraint at universities. Faculty members' perceptions of the impact of financial constraint and their preferences for particular measures for dealing with financial constraint together reveal an underlying pattern of concerns. What, then, is the underlying constellation of

faculty members' interests in the issue of financial constraint at universities? If attention is focused on what faculty members would choose to avoid as well as what they are inclined to accept, the response to this question arises straightforwardly from an examination of this study's findings. Faculty members' vital concerns focus on basic elements of their professional work activity.

First of all, faculty members do regard financial constraint at their universities as a matter of salient concern and as a problem which will probably continue for some time. They view financial constraint as a serious problem, because it has deleterious effects on particular aspects of their professional work activity: the quality of instruction which faculty are able to provide, their morale, their socio-economic status, the achievement of their career aspirations, and the general efficiency of their universities' operations. Moreover, faculty regard financial constraint as affecting their research productivity, their voluntary service activities, and the extent to which contract work is undertaken. Clearly, faculty members perceive financial constraint as having harmful effects on several elements of the quality of their work life, effects which they would understandably prefer to avoid.

Further clarification of the underlying pattern of faculty members' interests emerges from an examination of their preferences regarding institutional responses to financial constraint. Here their central concerns emerge plainly if the rank order of their preferences is simply inverted, that is, if their preferences for dealing with financial constraint are examined beginning with the least acceptable and proceeding to the most acceptable. (In this regard, see Table 4.16.)

Faculty members reject most strongly measures that would reduce their compensation, threaten tenure, or increase their average teaching workload. Faculty also reject strongly measures that would imperil their ability to conduct research and to provide instruction, measures that would diminish academic travel allowances, academic computing funds, library resources, and instructional supplies. Faculty's central concerns in the matter of financial constraint are closely related to their professional work activities.

As the incidence of potential institutional responses to financial constraint falls further from faculty's professional work activities, faculty's opposition lessens. Faculty members tend to be less adamant in their rejection of reductions in administrative support, measures that would affect the comptroller's office, the registrar's office, maintenance of grounds and facilities, and the availability of non-academic support staff. Similarly, faculty acceptance of measures that would tend to increase student fees and to reduce services available to students is inclined to be ambiguous.

Measures which faculty members consider acceptable tend overall to have less direct and detrimental impact on the professional work activities of faculty. Faculty members are inclined to acquiesce in acceptance of potential institutional responses that entail in principle the discontinuance of programs and departments of low priority, as well as the establishment of guidelines which would clarify institutional procedures for discontinuance of programs, dismissal of redundant personnel, and program review with an aim to determining the priority of programs. Faculty consider acceptable the development and expansion of programs. Faculty yield in acceptance of the voluntary alternatives to dismissal, presumably because they are voluntary in character. Faculty, moreover, acknowledge the value of conservation measures undertaken for the sake of prudent management. Faculty also favor their own involvement in the development of institutional responses for dealing with financial constraint. Finally, faculty members are most accepting of measures undertaken to increase their universities' legitimacy and procure additional financial resources, activities which ostensibly interfere minimally with faculty's professional work activities.

Baldridge (1971, pp. 21-26) noted that the likely outcome of bargaining and negotiation among contending interest groups in face of critical situations confronting the university is institutional change. Evidently, from a micropolitical perspective, any complete account of institutional change arising from the issue of financial constraint at a university would involve an investigation much more comprehensive than this study. Such an investigation would entail an identification of the pertinent interest groups, a delineation of their respective interests, a consideration of the power bases upon which each group might

draw, and a probing of the interest groups' respective strategies. Even the articulation of faculty interests to which this study was confined, however, provides some clear indications of the direction of institutional change which would coincide with faculty interests.

The profile of faculty interests delineated contains indications of the direction of institutional change to which faculty members would be open. First, faculty would be accepting of their own participation, presumably in some representative fashion, in the development of institutional responses for dealing with financial constraint. Second, faculty would also be accepting of the establishment of clear institutional guidelines regarding program discontinuance and the dismissal of academic personnel. Together these patterns of faculty interest support the adaptation of university governance to a situation never envisioned during the affluent period of growth and expansion: they support the elaboration of institutional processes which are suited to the environmental limitations imposed on universities in an era of scarce resources.

Given the resources, contemporary universities are extremely adept at expanding and diversifying programs. Such facility is the inheritance of much experience in the period of university expansion. The area in which universities appear to be less adept lies in the recently discovered territory of developing effective, reasonable, and equitable institutional processes for curtailing institutional activity. From the viewpoint of faculty, no permanent and satisfactory solution to financial constraint at universities is to be found in the expendient of crisis management, in which administration assumes the preponderance of decision-making authority because of the situation's urgency. The matter of financial constraint at universities can clearly no longer be considered a one-time crisis. Its anticipated permanence or at least periodic recurrence demands a longer term adaptation of institutional processes so that universities can more easily and fairly contend with both expansion and curtailment of institutional activities. Faculty's traditional participation in governance of their institutions and their vital interests which are at stake justify the establishment of such institutional processes.

From a micropolitical perspective, the ultimate imperative for organizational participants is to bargain and negotiate. Faculty, it is to be assumed, are taking this imperative to heart and employing whatever channels are at their disposal to advance their interests in the matter of financial constraint. They are no doubt resorting to their academic senates, their faculty associations, their special and standing committees, and whatever other means of persuasion are available to further their concerns. (Faculty associations might wish to limit their involvement in the development of solutions to financial constraint to the establishing of certain principles and procedures.) Boards of governors and university administrators, as the other major players in the issue of financial constraint within an institutional context, are doubtlessly pursuing their own visions of what their universities' solutions to this problem should be. On some points their visions surely coincide with faculty interests, and on others their outlooks quite likely diverge from faculty concerns. Only someone who is privy to the internal operations of a particular institution can have some accurate idea of the extent of convergence or divergence there between faculty interests and those of boards of governors and administrators.

Be that as it may, the articulation of faculty interests reported in this study maps out the terrain over which boards of governors and administrators ought to tread lightly if they judge the morale and commitment of faculty members to be of value. As Hardy (1987, p. 65) points out, reflecting on the institutional responses to financial constraint at two Quebec universities, more is at stake than balanced budgets. Successful solutions to the problems arising from financial constraint at universities probably take into consideration the distinctly educational character of these institutions as well as the academic tradition of faculty participation in governance.

E. IMPLICATIONS FOR RESEARCH AND PRACTICE

This section deals with implications of the study for further research into the topic of faculty and financial constraint as well as recommendations arising from the study for administrative practice at universities.

Implications for Further Research

In light of this study's findings and the conclusions drawn from them, several orientations for further research into the topic of faculty and financial constraint at universities are put forward. First, it is recommended that further research be undertaken in order to determine whether the acceptability in principle of measures for dealing with financial constraint is stable longitudinally. Such research would also provide the opportunity to determine whether the 10 types of measures identified in this study are a stable typology of acceptability. The thrust of such investigation would lie in a more certain grasp of the interests of faculty members under conditions of financial constraint, and in establishing whether such interests tend to be fixed.

Second, in further research the sample of respondents might be broadened to include sessional and part-time academic staff in addition to full-time faculty members. Such research would clarify whether the findings reached for full-time faculty members in this study are applicable to a wider cross-section of academic staff. Research of this sort would examine Whetten's (1980b, p. 369) contention that low status organizational participants tend to bear the brunt of organizational cutbacks, the implication of which is that a somewhat different profile of interests might be expected for sessional and part-time academic staff.

Third, it is proposed that in further research other variables be introduced which might be identified as associated with the acceptability of measures for dealing with financial constraint. This study's findings concerning the association of personal and institutional characteristics with acceptability indicated that such characteristics are likely not the key variables underlying acceptability. A more adequate understanding of the variables that are associated with acceptability would be desirable. One example of such a variable is enrollment (declining, stable, increasing in the department where a faculty member works), which Dallam and Hoyt (1983) found to be associated with acceptability. Another is the perception of the state of the economy.

Fourth and closely related to the previous recommendation aimed at a more adequate understanding of the variables associated with acceptability, an appropriate index of the

perceived need for measures for dealing with financial constraint could be developed in further research, and the relationship of this index to the acceptability in principle of measures for dealing with financial constraint could be tested.

Additional inquiry might also explore the acceptability of various measures for dealing with financial constraint from the viewpoint of other constituencies such as university boards of governors and students.

Implications for Practice

This study did not rest on any a priori assumptions regarding the best institutional responses to financial constraint. Insofar, however, as the perceptions and preferences of faculty cannot prudently be ignored by university administrators and boards of governors, the study does give rise to some recommendations for practice.

First, the university ought to acknowledge that faculty members do perceive financial constraint as a significant problem, a problem that will persist into the immediate future, and a problem which entails detrimental effects on aspects of faculty members' academic lives -- quality of instruction, morale, socio-economic status, and achievement of career aspirations.

Second, the university might anticipate perceptions of the impact of financial constraint to be fairly homogeneous among its faculty members without regard to discipline area, highest academic degree, tenure status, administrative status, size of university, membership in faculty association/union, or sex. Some variation might be expected with regard to academic rank and age. Considerable variations in faculty members' perceptions of the severity of financial constraint should be anticipated between institutions and between provinces.

Third, the university might take cognizance of the tendency of faculty members to exaggerate slightly their perceptions of the impact of financial constraint upon themselves collectively in comparison with their perceptions of that impact upon themselves individually.

Fourth, the university might avoid, other things being equal, implementing institutional responses to financial constraint that are directly detrimental to faculty interests.

To the extent that measures acceptable to faculty members are feasible and effective in increasing funding or decreasing expenditures, such measures should be adopted instead of measures that are unacceptable to faculty members.

Fifth, it is suggested that in developing institutional responses to financial constraint the university anticipate differences among faculty members from different discipline areas with regard to the preferred measures for dealing with financial constraint. Furthermore, the university could expect that measures acceptable in another province might not be acceptable to its own faculty members.

Sixth and most importantly, it is recommended that the university involve faculty members in the institutional process of developing measures for dealing with financial constraint, and more specifically in the development of procedures, criteria, and guidelines pertaining to program discontinuance and personnel dismissal.

F. CONCLUDING COMMENT

In broad terms, this research dealt with the effects of financial constraint at Western Canadian universities from the viewpoint of faculty members. This investigation also provided a vehicle of expression to faculty members with regard to the acceptability of various measures for dealing with financial constraint. No apology is offered for the study's empathy with faculty members and their concerns. It is legitimate to express their viewpoint insofar as faculty members traditionally enjoy participation in the governance of their institutions. Nevertheless, faculty members constitute only one constituency whose vital interests are at stake in the issues surrounding financial constraint. Accordingly, this study can be considered successful to the extent that it contributes some basis of discussion to further the understanding of financial constraint among faculty members themselves, and among university administrators, boards of governors and students.

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APPENDIX A: SURVEY INSTRUMENT

Part I Demographic Information

For each question, please circle one number beside the response that best describes your status at your university.

Please do not write in this column.

1. What is your discipline area? — 1

1. Agriculture/Forestry
2. Architecture
3. Business/Commerce
4. Dentistry
5. Education
6. Engineering
7. Fine Arts
8. Home Economics — 6, 7
9. Humanities
10. Law
11. Library Science
12. Medicine
13. Nursing
14. Pharmacy
15. Recreation
16. Rehabilitation Medicine
17. Social Science
18. Science
19. Veterinary Medicine
20. Other _____
(If other, please indicate)

2. What is your academic rank?

1. Full professor
2. Associate professor
3. Assistant professor — 8
4. Lecturer
5. Other _____
(If other, please indicate)

3. What is the highest academic degree you hold?

1. Doctorate
2. Master's — 9
3. Bachelor's
4. Other _____
(If other, please indicate)

4. What is your tenure status?

1. Tenured — 10
2. Non-tenured

5. Is your employment status continuing or sessional?

1. Continuing — 11
2. Sessional

6. Is your appointment full-time or part-time? 12

1. Full-time
2. Part-time

7. Do you currently hold an administrative position? 13

1. No
2. Yes_____
(If yes, please indicate title)

8. At which university are you a faculty member? 14, 15

1. Brandon University
2. Simon Fraser University
3. University of Alberta
4. University of British Columbia
5. University of Calgary
6. University of Lethbridge
7. University of Manitoba
8. University of Regina
9. University of Saskatchewan
10. University of Victoria
11. University of Winnipeg

9. Are you a member of the faculty association/union at your university? 16

1. No
2. Yes

10. What is your age category? 17

1. Under 30 years
2. 30-39 years
3. 40-49 years
4. 50-59 years
5. 60 years and over

11. What is your sex? 18

1. Female
2. Male

Part II Impact of Financial Constraint

Part II attempts to identify the consequences of financial constraint at your university. Please indicate what you perceive to be the impact of financial constraint by circling one number for each statement.

In addition, please feel free to make comments in the spaces provided.

Please do not write in this column.

A. In Section A, the scale is as follows:

1 = strongly disagree
2 = disagree
3 = neutral/uncertain
4 = agree
5 = strongly agree

12. Faculty generally perceive financial constraint at my university as a significant problem. 1 2 3 4 5 19

13. I view financial constraint at my university as a significant problem. 1 2 3 4 5 20

14. The situation of financial constraint at my university will probably last for at least another three years. 1 2 3 4 5 21

15. The government will probably increase the funding of my university in real terms next year. 1 2 3 4 5 22

_____

_____

B. Please circle one number to complete each statement.
The scale is as follows:

1 = very negative
2 = negative
3 = neutral/uncertain
4 = positive
5 = very positive

16. The impact of financial constraint on the quality of instruction at my university is generally_____. 1 2 3 4 5 23

17. The impact of financial constraint at my university on the quality of instruction I am able to provide is _____. 1 2 3 4 5 24

1 = very negative
2 = negative
3 = neutral/uncertain
4 = positive
5 = very positive

18. The impact of financial constraint on faculty morale at my university is generally_____. 1 2 3 4 5 25

19. The impact of financial constraint at my university on my morale is _____. 1 2 3 4 5 26

20. The impact of financial constraint on the socio-economic status of faculty at my university is generally_____. 1 2 3 4 5 27

21. The impact of financial constraint at my university on my socio-economic status is _____. 1 2 3 4 5 28

22. The impact of financial constraint on the achievement of faculty career aspirations at my university is generally _____. 1 2 3 4 5 29

23. The impact of financial constraint at my university on the achievement of my career aspirations is _____. 1 2 3 4 5 30

24. The impact of financial constraint on the efficient use of resources at my university is generally _____. 1 2 3 4 5 31

25. The impact of financial constraint on the overall effectiveness of academic staff at my university is generally _____. 1 2 3 4 5 32

26. The impact of financial constraint on the reconsideration of priorities at my university is generally_____. 1 2 3 4 5 33

_____

_____

C. Please circle one number to complete each statement.
The scale is as follows:

1 = decrease greatly
2 = decrease
3 = neutral/uncertain
4 = increase
5 = increase greatly

27. The impact of financial constraint is generally to _____ research productivity at my university. 1 2 3 4 5 34

28. The impact of financial constraint is generally to _____ my research productivity. 1 2 3 4 5 35

29. The impact of financial constraint is generally to _____ voluntary service activities (e.g., committee service, community service) at my university. 1 2 3 4 5 36

30. The impact of financial constraint at my university is to _____ my voluntary service activities (e.g. committee service, community service). 1 2 3 4 5 37

31. The impact of financial constraint is generally to _____ contract work (e.g., outside consulting) at my university. 1 2 3 4 5 38

32. The impact of financial constraint at my university is to_____ my contract work (e.g., outside consulting). 1 2 3 4 5 39

_____

_____

Part III Means of Dealing with Financial Constraint

Please indicate whether you find the following means of dealing with financial constraint acceptable in principle. For each item, circle one number, indicating the extent to which you find the means acceptable in principle.

Please do not write in this column.

The scale is as follows:

1 = very unacceptable
2 = unacceptable
3 = neutral / uncertain
4 = acceptable
5 = very acceptable

33.	That the university involve faculty members in the formation of responses to financial constraint	1 2 3 4 5	40
34.	That the university review its mission as preliminary step to taking action to deal with financial constraint	1 2 3 4 5	41
35.	That the university establish a task force to identify various responses to financial constraint	1 2 3 4 5	42
36.	That the university lobby government for more favorable funding arrangements	1 2 3 4 5	43
37.	That the university threaten to reduce its academic programs unless adequate funding is forthcoming	1 2 3 4 5	44
38.	That the university activate support groups (e.g., alumni) to lobby various constituencies on behalf of the university	1 2 3 4 5	45
39.	That the university utilize publicity campaigns in order to promote the legitimacy of its activities	1 2 3 4 5	46
40.	That the university align its programs more closely with Canada's manpower needs	1 2 3 4 5	47
41.	That the university provide incentives for the early retirement of faculty members	1 2 3 4 5	48
42.	That the university provide incentives for changing the full-time employment of tenured faculty members to part-time employment	1 2 3 4 5	49

1 = very unacceptable
2 = unacceptable
3 = neutral / uncertain
4 = acceptable
5 = very acceptable

43.	That the university liberalize arrangements for voluntary leave without pay	1 2 3 4 5	50
44.	That the university provide incentives for the retraining of faculty members for high-demand areas within the university	1 2 3 4 5	51
45.	That the university provide incentives for faculty members to undertake voluntary career changes outside the university	1 2 3 4 5	52
46.	That the university leave vacant faculty positions unfilled	1 2 3 4 5	53
47.	That the university fill vacant positions with sessional appointments	1 2 3 4 5	54
48.	That the university utilize tenure quotas within each department	1 2 3 4 5	55
49.	That the university abolish tenure for all new faculty members	1 2 3 4 5	56
50.	That the university increase average faculty teaching workload	1 2 3 4 5	57
51.	That the university negotiate a freeze in faculty members' salaries	1 2 3 4 5	58
52.	That the university negotiate a reduction in faculty members' salaries	1 2 3 4 5	59
53.	That the university dismiss non-tenured academic staff deemed redundant	1 2 3 4 5	60
54.	That the university dismiss tenured faculty members deemed redundant	1 2 3 4 5	61

1 = very unacceptable
2 = unacceptable
3 = neutral/uncertain
4 = acceptable
5 = very acceptable

55.	That the university establish clear guidelines regarding the process of termination of redundant faculty members	1 2 3 4 5	62
56.	That the university base terminations of faculty members deemed redundant on seniority (first in/last out)	1 2 3 4 5	63
57.	That the university base terminations of faculty members deemed redundant on program needs rather than on seniority	1 2 3 4 5	64
58.	That the university establish clear guidelines for the process of program discontinuance	1 2 3 4 5	65
59.	That the university utilize program review as a means of determining the priority of programs	1 2 3 4 5	66
60.	That the university discontinue certain academic programs of low priority	1 2 3 4 5	67
61.	That the university close certain departments of low priority	1 2 3 4 5	68
62.	That the university merge certain related departments	1 2 3 4 5	69
63.	That the university develop new programs in high-demand areas	1 2 3 4 5	70
64.	That the university expand current programs in high-demand areas	1 2 3 4 5	71
65.	That the university enhance its reputation by developing its programs of greatest academic potential	1 2 3 4 5	72
66.	That the university undertake more programs in cooperation with business and industry	1 2 3 4 5	73

1 = very unacceptable
2 = unacceptable
3 = neutral / uncertain
4 = acceptable
5 = very acceptable

67.	That the university enter into arrangements with other universities in the delivery of programs	1 2 3 4 5	6
68.	That the university recruit students in discipline areas in which its enrollment is below capacity	1 2 3 4 5	7
69.	That the university raise admission standards	1 2 3 4 5	8
70.	That the university increase its efforts at fund raising from private benefactors	1 2 3 4 5	9
71.	That the university seek more business and industrial funds for research	1 2 3 4 5	10
72.	That the university increase its efforts to obtain funding for the overhead costs of research	1 2 3 4 5	11
73.	That the university incorporate companies to market products which it develops	1 2 3 4 5	12
74.	That the university increase tuition charges	1 2 3 4 5	13
75.	That the university increase fee charges for student computing	1 2 3 4 5	14
76.	That the university sell some of its assets	1 2 3 4 5	15
77.	That the university incur an operating deficit	1 2 3 4 5	16
78.	That the university utilize energy conservation measures (e.g., electricity)	1 2 3 4 5	17
79.	That the university utilize utility conservation measures (e.g., telephones)	1 2 3 4 5	18
80.	That the university cut budgets across-the-board for all departments	1 2 3 4 5	19

1 = very unacceptable
2 = unacceptable
3 = neutral / uncertain
4 = acceptable
5 = very acceptable

81.	That the university employ a mechanism to reallocate internal resources on a priority basis	1 2 3 4 5	20
82.	That the university cut budgets in a selective manner	1 2 3 4 5	21
83.	That the university reduce budget allocations for non-academic staff	1 2 3 4 5	22
84.	That the university reduce the number of administrators	1 2 3 4 5	23
85.	That the university reduce budget allocations for secretarial support	1 2 3 4 5	24
86.	That the university reduce budget allocations for the registrar's office	1 2 3 4 5	25
87.	That the university reduce budget allocations for the comptroller's office	1 2 3 4 5	26
88.	That the university reduce budget allocations for student counseling services	1 2 3 4 5	27
89.	That the university require food services to become self-supporting	1 2 3 4 5	28
90.	That the university require student housing to become self-supporting	1 2 3 4 5	29
91.	That the university reduce budget allocations for student health services	1 2 3 4 5	30
92.	That the university reduce budget allocations for the purchase of library materials	1 2 3 4 5	31
93.	That the university reduce budget allocations for instructional supplies	1 2 3 4 5	32
94.	That the university reduce budget allocations for graduate student assistantships	1 2 3 4 5	33

1 = very unacceptable
2 = unacceptable
3 = neutral / uncertain
4 = acceptable
5 = very acceptable

95.	That the university reduce budget allocations for faculty members' academic computing	1 2 3 4 5	34
96.	That the university reduce travel allowances for faculty members	1 2 3 4 5	35
97.	That the university reduce the subsidization of scholarly publications	1 2 3 4 5	36
98.	That the university defer the maintenance of grounds	1 2 3 4 5	37
99.	That the university defer the maintenance of facilities	1 2 3 4 5	38
100.	That the university defer the purchase of new equipment	1 2 3 4 5	39

Part IV

Please indicate in the space provided any comments you may wish to make concerning financial constraint at your university.

Please scan through the questionnaire to see if you have omitted any items.

Thank you for your participation in this study.

APPENDIX B: COVERING LETTERS

January 10, 1986

Dear Colleague:

My purpose in writing is to encourage you to reply to the enclosed questionnaire dealing with financial constraint, in connection with a Ph.D. dissertation being conducted under my guidance.

This being a sensitive, but important, issue for all faculty members, I want to assure you that the research is being undertaken independently for purely academic reasons, and the results will be made available through the usual publication channels. I believe that information of the type solicited by the questionnaire will be invaluable in expressing the viewpoint of faculty towards the development of policies to ameliorate financial constraint, and I hope that you will take the time to let us have your opinions.

The questionnaire is being sent to approximately 1,000 faculty selected randomly from western universities. Responses will be handled anonymously.

Should you have need for any further details or wish to receive a synopsis of the findings please contact me.

Thank you in anticipation of your support of this study.

Yours sincerely,

James M. Small
Professor

JMS/rp

Encl.

January 10, 1986

Dear Professor:

One contemporary matter of concern to faculty members at Canadian universities is the condition of financial constraint. There is a wide-spread perception that universities in Canada are currently underfunded. Universities are responding to this shortage of funding through a variety of measures, but these measures are not always in accord with the preferences of faculty. In this light, it is advantageous for faculty to have their preferences well known, and thus more easily taken into consideration.

I wish to request your cooperation in a study concerning financial constraint. The purpose of the study is to assess the effects of financial constraint at universities from the viewpoint of faculty, and to identify the relative acceptability of various measures to deal with financial constraint.

You are invited to participate in the study by completing the enclosed questionnaire and returning it in the business reply envelope provided for your convenience. The results of the study will be reported in aggregate to assure anonymity to individual respondents.

I believe you will find the format of the questionnaire easy to follow. You can answer most of the questions in it by simply circling an appropriate number. There are four parts to the questionnaire. Part I solicits information regarding your current status at your university. Part II asks that you indicate your perceptions of the impact of financial constraint at your university. Part III requests that you rate the acceptability in principle of measures to deal with financial constraint. Part IV invites your personal comments regarding financial constraint at your university.

I encourage you to take this opportunity to make the views of faculty regarding financial constraint better known, and I thank you in anticipation for your taking part in the study.

Yours truly,

Jerome Ell
Killam Scholar

JE/rp

Encl.

APPENDIX C: FOLLOW-UP LETTER

February 3, 1986

Dear Professor:

In mid-January you received a questionnaire dealing with financial constraint at Canada's western universities. If you have already completed and mailed this questionnaire, I thank you for expressing your viewpoint on this sensitive but important issue for faculty members.

If you have not already done so, I would urge you to place the completion and mailing of this questionnaire high on your list of priorities. The purpose of the study underlying the questionnaire is to assess the effects of financial constraint at universities from the viewpoint of faculty, and to identify the relative acceptability of various measures to deal with financial constraint.

I wish to reiterate that this research is being conducted independently for purely academic reasons, and that the results will be made available through the usual publication channels. The questionnaire has been sent to approximately 1,000 faculty selected randomly from western universities. Responses will be handled anonymously.

Should you desire further details or wish to receive a synopsis of the findings, please contact me. Once again, I encourage you to take this opportunity to make the views of faculty concerning financial constraint better known.

Yours truly,

Jerome Ell
Killam Scholar

JE/rp

APPENDIX D: ADDITIONAL TABLES

Table 7.1

Stepwise Multiple Regression for Predicting Factor 1 Scores with Perceived Impact of Financial Constraint as Predicting Variables (N=418)

FACTOR 1: REDUCTION IN PROGRAMS

Predicting Variables	Multiple R	R^2	r
26. The impact of financial constraint on the reconsideration of priorities at my university is generally _____.	.246	.06	.246
32. The impact of financial constraint at my university is to _____ my contract work (e.g., outside consulting).	.269	.07	.119

Table 7.2

Stepwise Multiple Regression for Predicting Factor 2 Scores with Perceived Impact of Financial Constraint as Predicting Variables (N=418)

FACTOR 2: REDUCTION IN ADMINISTRATIVE SUPPORT

Predicting Variables	Multiple R	R^2	r
28. The impact of financial constraint is generally to _____ my research productivity.	.129	.02	-.129
31. The impact of financial constraint is generally to _____ contract work at my university (e.g., consulting).	.169	.03	.098

Table 7.3

Stepwise Multiple Regression for Predicting Factor 3 Scores with Perceived Impact of Financial Constraint as Predicting Variables (N=418)

FACTOR 3: REDUCTION IN ACADEMIC SUPPORT

Predicting Variables	Multiple R	R^2	r
30. The impact of financial constraint at my university is to _____ my voluntary service activities (e.g., committee, service, community service).	.141	.02	.141
27. The impact of financial constraint is generally _____ research productivity at my university.	.174	.03	.136

Table 7.4

Stepwise Multiple Regression for Predicting Factor 4 Scores with Perceived Impact of Financial Constraint as Predicting Variables (N=418)

FACTOR 4: REDUCTION IN REMUNERATION

Predicting Variables	Multiple R	R^2	r
13. I view financial constraint at my university as a significant problem.	.356	.13	-.356
32. The impact of financial constraint is generally _____ research productivity at my university.	.384	.15	.217
25. The impact of financial constraint on the overall effectiveness of academic staff at my university is generally _____	.398	.16	.243

Table 7.5

Stepwise Multiple Regression for Predicting Factor 5 Scores with Perceived Impact of Financial Constraint as Predicting Variables (N=418)

FACTOR 5: LOBBYING FOR LEGITIMACY AND FUNDS

Predicting Variables	Multiple R	R^2	r
20. The impact of financial constraint on the socio-economic status of faculty at my university is _____.	.219	.05	-.219
27. The impact of financial constraint is generally _____ research productivity at my university.	.268	.07	-.196
18. The impact of financial constraint on faculty morale at my university is generally _____	.291	.08	-.205
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	.315	.10	.008
14. The situation of financial constraint at my university will probably last for at least another three years.	.330	.11	-.066
13. I view financial constraint at my university as a significant problem.	.355	.13	-173

Table 7.6

Stepwise Multiple Regression for Predicting Factor 6 Scores with Perceived Impact of Financial Constraint as Predicting Variables (N=418)

FACTOR 6: DEVELOPMENT AND EXPANSION OF PROGRAMS

Predicting Variables	Multiple R	R^2	r
16. The impact of financial constraint on the quality of instruction at my university is generally _____	.136	.02	.136
27. The impact of financial constraint is generally _____ research productivity at my university.	.206	.04	-.113
32. The impact of financial constraint at my university is to _____ my contract work (e.g., outside consulting).	.229	.05	.098

Table 7.7

Stepwise Multiple Regression for Predicting Factor 7 Scores with Perceived Impact of Financial Constraint as Predicting Variables (N=418)

FACTOR 7: STUDENT FEES AND SERVICES

Predicting Variables	Multiple R	R^2	r
12. Faculty generally perceive financial constraint at my university as a significant problem.	.138	.02	-.138
32. The impact of financial constraint is generally _____ research productivity at my university.	.173	.03	-.086

Table 7.8

Stepwise Multiple Regression for Predicting Factor 8 Scores with Perceived Impact of Financial Constraint as Predicting Variables (N=418)

FACTOR 8: INVOLVEMENT OF FACULTY MEMBERS

Predicting Variables	Multiple R	R^2	r
15. The government will probably increase the funding of my university in real terms next year.	.219	.05	-.219
19. The impact of financial constraint at my university on my morale is _____.	.263	.07	-.195

Table 7.9

Stepwise Multiple Regression for Predicting Factor 10 Scores with Perceived Impact of Financial Constraint as Predicting Variables ($N = 418$)

FACTOR 10: CONSERVATION MEASURES

Predicting Variables	Multiple R	R^2	r
32. The impact of financial constraint at my university is to _____ my contract work (e.g., outside consulting).	.135	.02	-.135
13. I view financial constraint at my university as a significant problem.	.167	.03	-.103
14. The situation of financial constraint at my university will probably last for at least another three years.	.204	.04	.063
19. The impact of financial constraint at my university on my morale is _____.	.225	.05	-.036
27. The impact of financial constraint is generally _____ research productivity at my university.	.249	.06	-.105
20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____	.267	.07	.104

Table 7.10

Pearson Correlation Coefficients between the Perceived Impact of Financial Constraint on Faculty Members in General and on Individual Faculty Members

Item	Mean	*SD*	*r*	*N*
Section A				
12. Faculty generally perceive financial constraint at my university as a significant problem.	4.46	.74	.752*	455
13. I view financial constraint at my university as a significant problem.	4.38	.85		
Section B				
16. The impact of financial constraint on the quality of instruction at my university is generally _____.	2.01	.71	.564*	454
17. The impact of financial constraint at my university on the quality of instruction I am able to provide is _____	2.36	.69		
18. The impact of financial constraint on faculty morale at my university is generally_____.	1.83	.68	.557*	456
19. The impact of financial constraint at my university on my morale is _____.	2.16	.80		
20. The impact of financial constraint on the socio-economic status of faculty at my university is generally _____.	2.14	.74	.736*	454
21. The impact of financial constraint at my university on my socio-economic status is _____.	2.26	.77		

Continued

Table 7.10 (Continued)

Item	Mean	*SD*	*r*	*N*
22. The impact of financial constraint on the achievement of faculty career aspirations at my univrsity is generally _____.	2.22	.73	.586*	449
23. The impact of financial constraint at my university on the achievement of my career aspirations is _____.	2.45	.73		
Section C				
27. The impact of financial constraint is generally to _____ research productivity at my university.	2.14	.70	.585*	454
28. The impact of financial constraint is generally to _____ my research productivity.	2.36	.71		
29. The impact of financial constraint is generally to _____ voluntary service activities (e.g., committee service, community service) at my university.	2.45	.79	.718*	451
30. The impact of financial constraint at my university is to _____ my voluntary service activities (e.g. committee service, community service).	2.63	.79		
31. The impact of financial constraint is generally to _____ contract work (e.g., outside consulting) at my university.	3.39	.72	.567*	441
32. The impact of financial constraint at my university is to _____ my contract work (e.g., outside consulting).	3.20	.67		

* Significant at .001 level.
In Section A, the scale is as follows: 1 = disagree; 2 = strongly disagree; 3 = neutral/uncertain; 4 = agree; 5 = strongly agree.
In Section B, the scale is as follows: 1 = very negative; 2 = negative; 3 = neutral/uncertain; 4 = positive; 5 = very positive.
In Section C, the scale is as follows: 1 = decrease greatly; 2 = decrease; 3 = neutral/uncertain; 4 = increase; 5 = increase greatly.